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THE CRYSTAL PALACE.

See page 139.



JOURNAL

OF A

TRIP TO LONDON, PARIS,

AND THE

GREAT EXHIBITION,

IN

1851.

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BY ZADOCK THOMPSON.

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## PREFATORY REMARKS.

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Gratitude is, in itself, a most delightful emotion ; but it is possible for the warmest gratitude to be so associated and mingled with a sense of unrequited favors, as to leave the balance doubtful, between the pleasure of the one and the pain of the other. I speak from experience ; for while the good opinion, and the kindness of my many friends in Burlington, have been to me a source of the deepest pleasure, I have been, at the same time, deeply pained to think how little I *have done* to merit their favors, and how little I *can do* to repay them. Although, from my own experience, I can hardly speak otherwise than as a recipient, yet I can well conceive circumstances in which it may be more *blessed to give* than *to receive*. Such would be the case, when the giver, with proper motives, gives for a worthy object, and when the receiver receives, conscious that he is totally unworthy of the favor bestowed.

During my recent trip to Paris and London, I took, for my own convenience, short notes of my progress, and of occurrences, from day to day. Since my return, some of my friends have expressed a wish that I would allow my Journal, containing these notes, to be published. Gratitude to them forbids my refusal : but I consent to its publication, not that I am ambitious to produce a book of travels, nor that I expect the public to derive much information or amusement from its perusal, but simply to place in the hands of my most kind friends, a trifling memorial of my gratitude to them for the means, voluntarily furnished, without which I could never have experienced the pleasure, or have written a Journal of a *personal* trip to the Old World—without which I could never have had the opportunity I have enjoyed, of beholding the wonders of the great deep, and of seeing and admiring the wonderful things of nature and art which lie beyond it.

The World's Fair, having been rather the occasion, than the object, of my visit to Europe, may not fill so large a space in my Journal as some may expect. I spent several days at the Crystal Palace, admiring that marvellous building and its wonderful contents, and have recorded a few general observations respecting them; but years would be required to examine them all, and volumes to describe them.

Much has been said respecting the meagreness of the American department of the Exhibition, and, verily, I think myself it was meagre, compared with what it might have been. But it well represented our country, being a large space only partly filled. Our articles were plain and substantial, but not showy. Hence, it presented little attraction to the superficial observer, and was sometimes passed with a sneer, by the admirers of the gewgaws and tinsel of other departments. A little careful observation, however, was all that was needful to learn the fact, that real merit might lie concealed under an unpromising exterior—that the American articles would compare, favorably, with those of the same kind from any other country.

Two circumstances operated much to our disadvantage, especially in the view of superficial observers. In the first place, we attempted to occupy about three times as much space as we sent over materials to fill. In the second place, the accommodations and fixtures were not such as to exhibit our articles to the best advantage; nor was there sufficient care bestowed in giving them a neat and orderly arrangement, and in keeping them clean and in their places afterwards. When entering the American department, the first general impression seemed to be, that of entering a division of the building from which the choice articles had been mostly removed, leaving little more than the rough fixtures and remnants of goods scattered around in disorder and covered with dust. This, I say, seemed to be the first general impression. But this impression was soon removed from the minds of those, who had the patience to examine into the intrinsic merits of our articles; and such left our department with no disposition to sneer at the ingenuity and skill of the Americans. And, had we occupied, in the Crystal Palace, no more space than the proper disposition of our articles required, and had our General Government provided, as it appears to me

it should have done, for the suitable exposition and care of them, the American department, with only the materials we had there, might have *appeared* creditable, at the first view of the hundreds of thousands, as it was fully acknowledged to *be*, by the hundreds who had the patience to examine it.

But notwithstanding the sneers of foreigners and the professed shame of some of our own countrymen, on account of the meagreness of the American contributions to the Exhibition, in its earlier stages, the state of things was materially changed before its close. Foreigners were at length compelled, (reluctantly, indeed,) to acknowledge our superiority in some things; and the desponding Americans were, consequently, again enabled to hold up their heads. As Brother Jonathan made his debut in the Crystal Palace in his back-woods dress, the refined and burnished specimens of humanity of the old world, looked upon him at first as demi-savage—half Indian—little advanced in the arts beyond the fabrication of stone hatchets and arrow-heads and bone-knives; but long before the close of the Exhibition, his despised *ploughs* were able to open a furrow in the turf which covered their eyes, his *reaping machines* mowed a swarth through their prejudices, and his *keys* unlocked their sentiments of respect and confidence—yea, and his *yachts* were wafted gracefully by the breath of popular applause.

The following Journal contains brief notes for each day, from the time of my departure from Burlington, till I again reached my home. They were, for the most part, written at the close of the day, just before retiring to rest, often under great inconveniences, and with no expectation that they would ever be published in their present form. I wrote them for myself and family, and I permit them to be published in their original form, with very few changes, either of abatement or addition, as a token of gratitude to my personal friends, knowing that they will be indulgent to their imperfections, both in matter and manner. Others may think that I have recorded too much of every day occurrences—that I have repeated, too often, my hour of retiring at night and of rising in the morning. To such, I would merely express the wish, that the reiterated exhibition of a good example of early rising, may induce others to copy it. And to any who may think that I have said too much respecting myself, my health, &c., I would reply, that these



were matters in which I felt a deep *personal* interest, and “out of the abundance of the heart the mouth speaketh.” But I am happy now, in being able to state that, notwithstanding my indisposition while abroad, I find that, on the whole, my health is decidedly improved by my excursion; and I desire that these pages may go forth as a *thank-offering* to my friends, accompanied by my earnest prayer that the Lord will reward them abundantly for their kindnesses.

Z. THOMPSON.

BURLINGTON, Dec. 1, 1851.



## JOURNAL.

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Having completed arrangements for that purpose, I left Burlington in the Steamer, Whitehall, Capt. Lathrop, in the evening of the 27th of May, 1851, and, at half past six o'clock the next morning, took the cars at Whitehall for Troy, where I arrived about 10 o'clock. At Troy I was detained till evening, when I went on board the Steamer, Empire, for New York, where I met several friends from Burlington, who had left that place in the morning and had come down from Whitehall in the afternoon train. It was daylight in the morning of the 29th before we had passed the Highlands, and the beautiful scenery thence to New York was exhibited to fine advantage in the clearness and serenity of the morning. The view of the Palisades, illuminated by the rising sun, was strikingly beautiful and grand; and, together with the line of the Croton aqueduct and the Hudson river rail road seen on the east side of the river, and the many charming towns and villages and country seats, which adorn its banks, rendered our approach to the city of New York exceedingly interesting and delightful.

We reached the city a little after 7 o'clock in the morning, and I proceeded immediately to the Irving House, where I was cordially received by my friend,

D. D. Howard, Esq., one of the enterprising and well known proprietors of that popular establishment. On Phursday and Friday I called upon several friends in New York, and made the necessary arrangements for my departure. On Saturday, at 11 o'clock in the morning, I went on board the Franklin with my baggage, and had the pleasure of meeting there some of my Burlington friends, who came on board to witness my departure. On leaving the Irving House, Mr. H. with his accustomed generosity, refused to receive any pay for the elegant and profuse hospitalities of his House, which I had enjoyed for three days, and, moreover, besides furnishing me, gratuitously, while there, with a ticket to one of Jenny Lind's concerts, he kindly invited me to be his guest on my return.

At 12 o'clock, on the 31st of May, the noble Steam-Ship, Franklin, was released from her moorings at Pier, No. 4, North River, and moved out into the stream, and, at 2 P. M., the discharge of her guns announced that she was headed round towards the sea and was taking her departure. The weather was fine, with a light northerly wind, and I was fully occupied in admiring and enjoying the charming prospects and the beautiful scenery, successively brought into view, as we glided rapidly downward by Castle Garden, and the several forts and islands, until we had gotten outside of Sandy Hook. The river and bay were well besprinkled with vessels moving in various directions, and all around was life and activity. Just outside of the Hook, we met a large emigrant ship, the deck of which was literally crammed with miserable and squalid beings from the old world, and at 6 P. M., we had lost sight of land

and found our horizon, all around us, terminating in the ocean. At about 20 minutes past seven, I saw the sun set, for the first time, beneath the dark waters in the west. Retired to my berth between 9 and 10 in the evening, and slept tolerable well till morning.

My chum I find to be a fine old French gentleman from New Orleans, by the name of Blanchard. He is able to converse some in English, but not very fluently. Our state room is in the forward part of the ship and is quite too small for convenience, especially as we have each of us a very large trunk. Every state room and berth in the ship appear to be occupied, and I understand the number of passengers on board to be about 140. The officers, crew, cooks, waiters, &c., must be about 100, making the whole number of souls on board, near 250.

JUNE 1. *Sunday*.—Rose quite early, found the weather fair, the wind light and the sea but little agitated. By the sun's altitude at noon our latitude was found to be  $40^{\circ} 33'$ , our longitude,  $69^{\circ} 10'$ , and our distance from New York, 227 miles, making the mean rate of our progress about 11 miles per hour.—During Sunday we passed seven sailing vessels and one large steamer. The latter was at a great distance from us, and was supposed to be the Washington from Bremen. During the day we had a light wind from a point a little east of north, and the atmosphere was hazy; but in the evening the wind increased, and, before morning, blew quite a gale, rendering the sea rough, and causing the ship to pitch and roll very considerably.

JUNE 2. *Monday*.—Morning dark and cloudy, wind strong from a point a little east of north, sea very rough,

white caps abundant, and our ship pitching and rolling very badly. A dismal scene below. Sea sickness began to make an unequivocal manifestation of itself last evening, and before morning, full two thirds of the passengers had received an experimental assurance of the fact. Very few have made their appearance in the dining saloon to day. Since half past ten this morning, the weather has been foggy, with the sea running high and dashing its spray over the upper deck, in such a manner that the wo-begone passengers could not remain there, and they have, consequently, been, most of the day, in their berths. Although I have experienced very little of the suffering, which Mr. Greely represents himself to have endured, I have witnessed quite enough, during the last twenty four hours, to enable me to understand very well the scenes he so *feelingly* described in the Tribune, in his account of his first voyage across the Atlantic. But while old Neptune's demands for tribute were very generally imperative and irresistible, he showed himself very indulgent to me, exacting only a slight nausea and loss of appetite, but not sufficient to prevent my regular appearance in the dinning saloon at the hour of meals. I retired to my berth somewhat earlier than usual, and, notwithstanding the rolling and tumbling of the ship, slept very well till morning.

JUNE 3. *Tuesday* — Rose about sunrise, found the sea less agitated than it was last evening,—wind fresh from south-southeast. At 7 A. M. the wind had gone fully round into the south. The ship's course, by the compass, since we left Sandy-Hook, has been directly east, but, on account of the magnetic variation, the true course has been very considerably to the northward of



east. Our latitude, to day at noon, was  $41^{\circ} 40'$ , longitude  $58^{\circ} 21'$ , and distance run since the preceeding noon, 230 miles. At 5 P. M. we passed a school of what the sailors called, Ship-Jacks. They were skipping and playing along the surface of the water, and appeared to be about a foot and a half long and very thick and clumped. About sunset we had a smart shower, with several claps of thunder. They were not attended with that rumbling reverberation, which is observed on land, but were sudden and short, like reports of a cannon. The shower came from the southwest.

French is, I think, the native language of more than one half of the-passengers on board, and numbers of them can speak no other. Very many of them are from New Orleans and the West Indies, and several of them are Jews. Many of the passengers continue to suffer from sea-sickness, but a majority, I think, have appeared in the dining saloon to day, at the principal meals.

JUNE 4. *Wednesday.* The ship has rolled badly during the night, on account of a change in the direction of the wind last evening. I arose a little after midnight and spent some time on deck, observing the phosphorescence of the waves, as they broke around the ship. I had observed the light from the water flashing into the windows of my state room, before I left my berth. Stars were visible at the time, but the sky was partially obscured by clouds. I retired again to my berth about one o'clock and slept till five, when I arose, and found the sky completely overcast, the wind north and the thermometer, in the air, at  $52^{\circ}$ . The forenoon, however, proved to be fair, with a light wind, but there was a long heavy swell of the sea, giving a disagreeable mo-

tion to the ship, and a very considerable number are still suffering from sea-sickness. Have not suffered at all myself, excepting as mentioned on Monday.

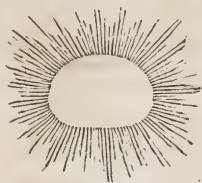
At noon to day, we were in latitude  $43^{\circ} 31'$ , in longitude  $52^{\circ} 53'$ , and had advanced since the previous noon, 265 miles. We are said to be now upon the Grand Bank of Newfoundland—the great Fishing-Bank of the world, and about 1000 miles from New York, or about one third, the distance across the Atlantic. We have passed several sail to day, bound westward, one of which was ascertained to be the London packet, Margaret Evans, which was advertised to leave Portsmouth on the 16th of May. About three and half P. M. we passed the wreck of a schooner, consisting of little more than the keel and ribs, from which the planks were nearly all stripped.

Experienced mariners usually tell when they are upon soundings by the color of the water, it being darker and having little of that beautiful light greenish-blue tint, so observable in the waves of the deep sea. Since we came upon the Grand Bank, the color of the water has resembled, very closely, that of the deeper parts of our fresh water lakes.

The sunset, to night, was the most interesting I ever witnessed, not only on account of the varied and beautiful colors, which lit up the western sky, but, more particularly, on account of the wonderful effect of atmospheric refraction. Burlington is celebrated for its beautiful sunsets, and can boast of some, which might, perhaps, vie, in splendor and loveliness with the one just mentioned, but never before did I witness such a distortion of the sun's image by refraction. Close down



to the horizon the refraction was such as to convert the sun's disc very nearly into the form of a vertical section of an old fashioned loaf of bread. But as this comparison may be as indefinite with regard to form, as was that of the witness' piece of chalk, with regard to size, I introduce the accompanying figure to explain my meaning. The flattening of the disc was such, that the vertical diameter did not much exceed two thirds of the horizontal diameter, but the flattening was principally upon the under side; and, indeed, it was there, so great, just before the disappearance of the sun, that the boundary of the disc below differed very little from a right line. Between sunset and dark, something, which the seamen called a Flying Fish, passed us, fluttering along the side of the ship, most of the time out of the water, but it was so nearly dark that I had not a distinct view of it.



JUNE 5. *Thursday*.—Awoke this morning about 4 o'clock, but perceiving it to be very foggy, went to sleep again and slept till 5, when I arose and found we were in the midst of a field of Icebergs. At the time I came upon deck there was one, of considerable size, in plain sight at the south east, and only about a mile off; and I was told that we had, a short time previous to my coming on deck, passed very near several others of much larger size. The thermometer in the air stood, at the time, at  $47^{\circ}$ . As we passed along we approached somewhat nearer the iceberg above mentioned, and I had an opportunity of viewing it in different directions. It appeared like a rounded mass of nearly snowy white-

ness, exhibiting none of the dark crystalline aspect of ordinary ice, excepting along portions of the edges. Its form, as seen when directly



to the southward of us, is exhibited in the accompanying diagram, in which the dark shades denote the parts, which had the appearance of ice. All the other parts resembled snow. I saw no discoloration, which indicated that it transported either rocks or earth, which they are well known frequently to do. The height of this iceberg, above the water, was estimated to be about 50 feet, and its horizontal extent 300 feet; and as this extent appeared nearly the same from all the positions from which it was seen, the horizontal diameters of the mass, at the surface of the sea, must have been nearly equal in all directions. To form an idea of the entire magnitude of the iceberg, it is necessary to consider that only one eighth of the mass of floating ice appears above the surface of the water, and therefore the whole mass must have been eight times as large as the part seen. The western edge of the iceberg appeared to have been broken off, presenting a perpendicular face of perhaps 18 feet in height. About 6 A. M. we passed another iceberg, judged to be 5 or 6 miles to the southward of us and at 8, three others were in sight some distance to the northward. Some of these must have been very much larger than the one I have described. The last we saw was very large and remote in the north. It exhibited two prominences with a valley between them, resembling two distant mountain summits covered with snow. We lost sight of this about 1 P. M.

About noon we passed a large school of Porpoises, or

I might, perhaps, with equal propriety, say that they passed us, for they were moving westward with a speed scarcely less than ours eastward. Hovering over them and occasionally pitching down among them, were a great number of Gulls, and I have observed that wherever porpoises have shown themselves in numbers, gulls have appeared also. Captain Wotton tells me that he thinks the porpoises, when sporting and leaping out of the water, as we see them, are pursuing and feeding upon schools of small fishes, and that the gulls are invited by the same, and that they pounce upon and seize the fishes as they rise to the surface in their endeavors to escape the porpoises. Gulls have been quite numerous, when there were no porpoises in sight, and I have hardly been on deck for half an hour in the day time without seeing more or less of Mother Carey's Chickens around us\*

At noon to day we were in latitude  $45^{\circ} 26'$ , in longitude  $47^{\circ} 8'$  and 1252 miles from New York. We have passed, to day, several sail, some of which were bound westward, and others apparently engaged in fishing. The temperature of the water, passed over during the 24 hours preceding noon to day, being examined every four hours, was found to be  $46^{\circ}$ , while that of the atmosphere was  $56^{\circ}$ . The weather is cloudy, chilly and

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\* Mother Carey's Chickens is a name given to sea-birds resembling our Cliff Swallows, but they are somewhat larger and are properly called Petrels. The Petrels have been regarded by the ignorant and superstitious as harbingers of storms and shipwrecks, and have, therefore, been very unjustly stigmatized by such names as *Stormy Petrel*, *Devil's Bird* and *Mother Carey's Chickens*. I noticed two species, which I took to be the *Thalassidroma Wilsonii* and *T. Leachii*. The former was most common.

gloomy, and I am told it is almost always so on the Banks; and for a great portion of the year they are covered with dense fogs. I have long taken a deep interest in *Fishes*, and yet I can hardly imagine an employment, which would be more disagreeable to me than fishing on the Grand Bank. I can see no pleasure in the business, except it be that of good bites and "*glorious nibbles*," while the fishermen are all the time exposed to chills and fogs and dangerous storms: and yet every year hundreds of fishing vessels spend the whole summer upon the banks. Wrote a few lines this evening to my friend, D. W. C. Clarke, Esq., Editor of the Burlington Free Press.\*

JUNE 6. *Friday*.—Rose this morning and went on deck about 4 o'clock.—found the weather cloudy with a light wind from the east. At a little distance from the ship, I observed that the gulls were numerous and active, and, on looking more closely, I perceived the surface of the ocean to be apparently alive with porpoises, leaping and gamboling in the most playful manner. They would frequently leap their entire length out of the water, showing the whole animal at the same time. A little after 5, I again retired to my berth and slept till 7, when I arose and found that a smart rain had, in the mean time, set in. The rain continued till 11, when the wind changed to the west and the rain ceased. At noon the clouds were so much broken and dissipated as to enable Captain Wotton to get a tolerably good observation of the sun, for time and latitude. The latitude was found to be  $47^{\circ} 57'$ , longitude  $41^{\circ} 50'$ , and the distance sailed since the preceding noon, 262 miles. The thermometer

\* The letter was published in the Free Press, July 9.



stood, in the air, at  $54^{\circ}$ , and in the water, at  $60^{\circ}$ . During the afternoon the wind continued west, but had increased before night to quite a gale, so that the ship tossed and pitched very badly. I retired at half past 9, but slept very little. About midnight I arose and spent some time on deck. I found the sky mostly clear, and, although the wind had somewhat abated, the sea was rougher than it had been at any time since we left New York.

JUNE 7. *Saturday*.—Rose just as the sun was emerging from the ocean, but as it was quite hazy in the north-east, there was nothing very remarkable in the appearance. The surface of the ocean was not so much chopped and broken as it was yesterday, but the sea was running in very large, heavy swells, which caused the ship to pitch and roll nearly as much as at any time before. About 6 A. M. we passed a sail, being the first seen since Thursday. It was at some distance to the northward of us, and was standing towards the south-west. Shortly afterwards I had the satisfaction of seeing, for the first time, a *live* Whale. It was judged to be about two miles off. I saw it spout a dozen times or more, and frequently saw parts of its head above the water. It belonged to a small species, which the sailors call the Finback Whale. It was probably the whale called Grampus, (*Delphinus grampus*.) When it spouted the spray appeared to rise 12 or 15 feet. It is said to be a very shy whale, and that ships can seldom approach near it. About 2 P. M. we passed another sail, 7 or 8 miles to the northward of us. The sky has been overcast with clouds most of the day, with the wind nearly ahead and the sea running in long, heavy swells.

JUNE 8. *Sunday*.—Two sail in sight, 6 or 8 miles to the southward of us, when I went on deck; morning cloudy, the wind still east, and the sea running in considerable swells.

When I left New York I was not acquainted with a person on board, nor did I know the name of any one excepting Captain Wotton; but I have been gradually ascertaining their names and forming some acquaintances. Among these is a Mr. Hodgson, from Savannah, Georgia, with his family, consisting of a wife, maiden lady and a servant. They informed me that the Rev. Willard Preston, who was for a short time, President of the University of Vermont, has been their parish minister, in Savannah, for the last 17 years. There is also on board a Rev. Dr. Means, from Georgia. He is Professor of Chemistry and Natural History, in a College under the patronage of the Methodists. He intends travelling through England and Scotland, and on the continent for the purpose, principally, of increasing his geological information.

It is now half past ten o'clock in the evening, and daylight is still very perceptible. Our latitude is about  $51^{\circ}$  our longitude  $27^{\circ}$ , and our distance from New York a little over 2100 miles. The sea has become very much calmed down since morning.

JUNE 9. *Monday*.—Left my berth at half past three this morning, and went on deck—cloudy but calm. The sun rises here at this season at about 3h. 45m., making the days sixteen and a half hours long, and giving a strong twilight during most of the short night. Passed a brig at half past four, two miles to the southward of us. During the forenoon the clouds cleared away and the



weather became fine. Noon observations showed our latitude to be  $51^{\circ} 13'$ , longitude  $21^{\circ} 27'$ , and distance sailed since preceding noon 283 miles.

Made acquaintance to-day with Mr. Putnam, Book Publisher, formerly of the firm of Wiley & Putnam, New York. He had with him specimens of several new books which he was taking out to England. Among these were the Proceedings of the American Association for the Advancement of Science, at their meeting in New Haven in August, 1850, and the recent work of Dr. Hitchcock, President of Amherst College, entitled, Geology of Religion. The sky became overcast with clouds soon after noon, with a gentle breeze from the west, which has gradually increased to a strong wind, producing no slight commotion in the sea and driving us onward, towards the old world, with great rapidity. At 8 o'clock this evening, the log indicated an advance of 104 miles since noon.

JUNE 10. *Tuesday*.—Retired last night at 10, and notwithstanding the tossing of the ship, slept very well till 3 this morning, when I arose, went on deck, found the ship running rapidly before the wind and the weather fair, but was prevented from seeing the sun rise by a haziness in the north-east. At 4 A. M. the ship's log indicated an advance of 108 miles in the preceding eight hours. Passed two sail this morning between 3 and 5 o'clock. By the sun's altitude at noon, our latitude was found to be  $50^{\circ} 19'$ , longitude  $13^{\circ} 55'$ , and the distance run since the preceding noon, 300 miles.

From what is said above, the ship's progress would, at first, appear to have been less rapid from 4 A. M. to noon, than it had been, during the sixteen hours previ-

ous, but this arises from the mode of reckoning at sea, the time between 4 A. M. and noon, in which 88 of the 300 miles were run, being only seven and a half hours. The time at sea is noted by a time-piece, which keeps mean time, and the hands of which are set every day, at noon, so as to indicate 12 o'clock. If the ship had no motion, noon by the sun, each day, would coincide with 12 o'clock by the time-piece, and it would therefore require no alteration. , But, if the ship be moving eastward, it will be noon by the sun before it is 12 by the time-piece, to the amount of 4 minutes for each degree of longitude passed over. In going from the United States to England, our steamships pass over, on an average, about  $7\frac{1}{2}^{\circ}$ , equal to thirty minutes in time, each day. Hence it is necessary, in order that the time-piece should agree with the noon by the sun where the ship is, that it should be set forward, each day, about 30 minutes. The reverse of this takes place in the return voyage from England to the United States.

The chronometer seems, now, to be very generally relied upon for longitude, in voyages across the Atlantic, and the laborious process of lunar distances is seldom resorted to. The chronometer constantly indicates the true time at Greenwich, and by the sun's altitude the ship's latitude and time are easily found; and the ship's time subtracted from the chronometer time, and the difference converted into degrees and minutes, is the longitude of the ship, from Greenwich, at the time.

The wind has gradually veered round, through the north, to the east, and by 4 o'clock this afternoon, was blowing a fresh breeze directly opposite to our course. It has been, during the day, quite chilly, so much so as

to render it uncomfortable remaining on deck without an over-coat. The expectation is now prevalent on board that, if no accident befall us, we shall see land before to-morrow night.

JUNE 11. *Wednesday*.—Rose this morning about 3 o'clock and went on deck just in season to enjoy the most splendid sun-rise I ever witnessed. For the first time, since we left New York, the sky was clear at that point of the horizon, where the sun appeared to emerge from the ocean. At a little height above the horizon, narrow belts and small flocks of clouds, were stretched and scattered along the northeastern sky, which, as the sun arose, became lighted up and tinged in the most gorgeous manner. The various shades, from the most dazzling brightness to hues of "grave and sober aspect," were so arranged and blended, that imagination could hardly conceive any thing equally splendid and beautiful. In this case there was none of that distortion of the sun's image by atmospheric refraction, which I have described, as seen at the sun's setting on the Grand Bank. Indeed, the eye could scarcely detect any deviation, in the form of his disc, from a perfect circle.

While exulting in the brightness of the sunny morning, and in the anticipation of a charming day, I was sorry to observe that the experienced seamen on board were indulging anticipations of a very different nature. Yea, some of them averred, at the time, that such a sunrise was a certain indication of an approaching storm, and that we might depend upon experiencing one within twenty-four hours. I had no faith in the prediction when it was uttered, but long before noon the sky was completely overcast with clouds, and the fogs and mists were

seen to be gathering around us and contracting the field of our vision, and about noon the storm commenced with a strong wind from the south. I observed that Capt. Wotton was constantly on deck striving to penetrate, by his vision, the dense fog which surrounded us, and, about 1 o'clock, the intelligence was announced that we were in sight of land. We were close in upon the Scilly Islands and headed directly towards them, and fortunate it was that we reached here by day-light. Had we arrived here in the night, in such a fog, we should have been in imminent danger of running upon these rocky islets before they were discovered. The ship's course was immediately changed to the south, and we coasted along for a considerable distance close in upon the islands. These islands appear, through the fog and rain, to consist almost entirely of rocks with very little vegetation, and, all around, sharp-pointed rocks are seen projecting above the surface of the ocean. They exhibit, in their sharp pinnacles, abrupt precipices and deep chasms, an outline unlike any thing we have in the northern part of the United States, and one, if I rightly judge, which indicates the rocks to be of igneous origin,\* although I am totally ignorant of their geological character.

The storm was raging with considerable violence before we had passed the Scilly Islands and Lizard's Point; and as we passed along, the wind was driving directly towards those rocky shores, and we were so near them that we could plainly see, through the fog and mist, the waves as they lashed themselves into foam upon the

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\*The correctness of this conjecture, in relation to the geological character of the Scilly Islands, was afterwards verified by the examination of a geological map of England.



rocks and threw volumes of spray into the air. As night was closing in upon us under these circumstances, I became well assured that we were about encountering the most perilous part of our voyage, and, especially, when I saw the sailors busily and silently employed in removing the covering from the *life-boats* and putting them in readiness for service. I was up till midnight, when, having finished some short letters which I wished to have mailed at Southampton, I went on deck, and was told by Capt. Wotton that we were just then passing the Edystone Light-house,\* whose light was dimly seen through the fog and storm, which had experienced no abatement.

JUNE 12. *Thursday*.—At half past 12 at night, I turned into my berth and slept about three hours, when I arose and found the storm still raging. At 6 A. M. the Franklin's engine was stopped, for the first time, since we left New York, and a pilot was taken on board to conduct the ship into the harbor of Cowes. About 7 we

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\* This celebrated monument of the mechanical genius of Smeaton is built upon a reef of rocks situated outside of Plymouth Sound and 14 miles from Plymouth. The reef is 700 feet long and is entirely covered at high tide, and shipwrecks upon it were very common in former times. A light-house was built here in 1696, which was swept away in 1703. In 1708 another was built, which was burned in 1755. The present Eddystone Light-house was finished by Mr. Smeaton in 1759. It is 100 feet high, the lantern being 72 feet above high water. The stones of its base are dove-tailed into the rock on which it stands, and each tier of stones is dove-tailed into the tier below, so that the whole shaft is like one stone joined to the rock, and its form is like that of the boll, or trunk, of a tree, from the root to the limbs. The vertical curve produced by the contraction of the broad base into the narrow shaft, causes the momentum of the waves to be expended in rising up the side of the shaft, instead of beating, with their full force, against it.

passed the celebrated natural curiosity called the *Needles*, and entered the channel separating the Isle of Wight from the main land. These Needles consist of several sharp pointed rocks, which rise some 20 or 30 feet out of the water, at a little distance from the shore, and have very much the form of shark's teeth. The northwestern extremity of the Isle of Wight is formed by a lofty perpendicular chalk cliff, and the channel between this cliff and the main land is quite narrow. In this channel, at the distance of, perhaps, 20 rods from the foot of the cliff, these Needles are situated. There are three of them, whose bases appeared to be united at the surface of the water, and were evidently formed by the wearing away of the softer parts of the rock, which was, formerly, a prolongation of the point now constituting the chalk cliff. On account of the narrowness of the channel and the many concealed rocks, the passage of the Needles is considered somewhat difficult and dangerous at certain stages of the tide, and hence the necessity of a pilot, who is well acquainted with the channel.



The above cut is from a sketch, which I attempted, while passing the Needles, and may give some idea of



their appearance. My nearness to the objects and the rapid change in the view, rendered it impossible to do justice to the scene. The color of the Needles was that of a gray, weather-beaten limestone. That of the perpendicular chalk cliff behind them was, very nearly, a pure white. The lower parts of the cliff at the left, had a ferruginous hue, as if stained with iron rust. The top of the cliff was covered with a thin soil, producing stunted grass.

It was about 9 A. M. when we arrived in the harbor of Cowes, and about two hours were spent in transferring passengers for England to a little steamer, which was to convey them to Southampton, which is on the head of an inlet into the main land opposite to Cowes and distant about 15 miles. These amounted to about one half of the whole number of the Franklin's passengers.

Cowes is a small place, but is beautifully situated on a small bay, or indentation, in the Isle of Wight. The ground rises gradually from the ocean for a short distance, and then quite abruptly. The place abounds in shade trees, among which the houses, some of which are elegant, are seen straggling up the acclivity, and the whole, as seen from the water, would furnish materials for a very beautiful picture. To the eastward of Cowes, on the main land, lie Gosport and Portsmouth, the great naval station of Great Britain.

At 11 o'clock the Franklin, having taken on board a pilot to conduct the ship into port, was again under way and proceeding towards Havre. The storm, at this time, had considerably abated, and before one o'clock, had entirely ceased. During the afternoon the clouds

gradually cleared away and the weather became fine and agreeable. Just after leaving Cowes we had a good view of Queen Victoria's country Palace on the Isle of Wight, called the Osborne House, and at 4 P. M. we had the satisfaction of beholding, in the distance, the coast of France.

During our voyage, I had endeavored to take notes of our progress, and of our position, from day to day, but having failed of noting some particulars, which I desired, I asked Capt. Wotton if he would allow them to be copied from his Log Book. He readily assented, and, to day, has furnished me with the following interesting Abstract of his Log-Book, from the time of our leaving New York till our arrival at Cowes.

## ABSTRACT LOG.

*New York to Cowes—Steam Ship, Franklin.*

JAS. A. WOTTON, COMMANDER.

Date	Latitude	Long.	Dist.	Thermo.		Barom.	Rotations	Coal.
Ncen.	North.	West.	Run.	Air.	Water	Inches.	Engine.	Tons.
May 31	40° 42' 74"	2	0					
June 1	40 33 69	10	227	65	56	30,00	16,840	71.
" 2	40 57 63	30	260	56	50	29,10	18,743	70.
" 3	41 40 58	21	230	70	70	29,30	18,957	69.
" 4	43 31 52	53	265	53	51	29,60	18,762	68.
" 5	45 26 47	8	270	56	46	29,50	20,445	67.
" 6	47 57 41	50	262	50	54	29,40	19,830	69.
" 7	49 44 35	36	273	60	70	29,50	20,623	71.
" 8	50 41 28	55	263	70	60	29,60	22,777	69.
" 9	51 13 21	29	283	70	60	29,60	21,460	71.
" 10	50 19 13	55	300	60	56	29,50	21,387	69.
" 11	50 5 6	55	278	60	56	29,40	21,387	69.
" 12	50 48 1	20	220	54	53	29,60	18,117	58.
			3131				239,328	821

We left New York at 2 P. M., May 31st, and reached Cowes, June 12th, at 9 A. M., making 11 days 19

hours, from which, deducting 5 hours, for difference of longitude, leaves 11 days 14 hours for the length of the passage.

In the above table, the amount of coal consumed has appeared more surprising to me than any thing else. Little did I think that a Steam-Ship required the daily consumption of 70 tons of coal, and more than 800 tons in a passage across the Atlantic. The Franklin drew near three feet less water, on her arrival at Cowes, than on leaving New York, in consequence of the lightning of the ship by the consumption of her stock of coal. The Franklin's tonnage is about 2500 tons, and hence one third of her full freight must, necessarily, be fuel.

As we approached Havre, we had a fine view of the chalk cliffs, which form the coast of France, and stretch off from the mouth of the Seine towards the straits of Dover. The shore all along appeared to be quite precipitous, with an undulating country lying beyond, but, presenting to the eye no elevations of much height. We arrived in the mouth of the Seine about 7 o'clock, but was half past 8 before the ship was warped into her dock at Havre—so late that I, and many others have concluded to remain on board till morning. The vertical rise of the tide at Havre is 22 feet, and it is only at particular stages of the tide, that ships can conveniently enter the harbor.

JUNE 13. *Friday*.—This morning, for the first time, pressed, with my feet, the soil of continental Europe. At 8 o'clock our baggage was taken on shore and conveyed to the Custom House for inspection, and our passports were sent to the Passport office, while I sought a breakfast at one of the Hotels. After breakfast I went

to the Custom House, and pointed out my baggage, consisting of a large trunk and box of specimens of fishes and reptiles for the Museum of Natural History of Paris; when, at it they went, with hammer and chisel, and had the cover off before I could make them listen to any explanation. Their havoc was at length stopped, and, being satisfied of the nature and object of the contents, they nailed on the cover again. By the payment of a fee of three francs I got possession of my baggage again, and then went in pursuit of my passport. After waiting at the Passport Office some time for my turn, I was furnished with a passport in French, and was told that I should find my American passport at the office of the Prefect of Police in Paris; and this is done, I understand, merely to furnish the officials an excuse for exacting a fee of two francs. I spent no time in looking about Havre, but hastened with my baggage to the Rail-Way Station, and secured a passage in the 11 o'clock train to Paris. The expenses incurred in the 3 hours in Havre, from 8 till 11, gave me a somewhat bitter foretaste of the cost of travelling in France. They were, 3 francs at the Custom House, 2 francs for passport, 2 francs for breakfast, 3 francs for guide, 3 for transportation and cab hire, and 26  $\frac{1}{2}$  for fare of self, and 5 for baggage, to Paris, making in all 43  $\frac{1}{2}$  francs, equal to \$8.70. I took passage in a First Class car. The second Class cars are respectable and equally comfortable, and, should save some 4 or 5 francs, if I could take passage in one of them, but there were none going up in the train, and I am told that they are quite careful not to run any 2d Class Cars immediately after the arrival of our Steamers, thus compelling all the pas-



sengers, who proceed on to Paris, to pay first class fare.

The train left Havre at 11 A. M., and reached Paris at 5 P. M. The distance is 141 miles, and it was passed over in just six hours, including the stops at the way stations. The aspect of every thing here is quite unlike any thing seen in the United States. The chalk cliffs at the mouth of the Seine and frequently peeping out along its course—the brown and dingy aspect of the ancient cities of Havre and Rouen, the former with its vast military defences and the latter with its august cathedral—the farms, in the shape of long and narrow parallelograms, stretching up the gentle slope of the sides of the valley and checked by the growing crops, into squares, resembling the patch-work of a quilt—the old and decaying mansions surrounded by contemptible thatched cottages—these are objects, of which fresh and vigorous New England furnishes no counterparts.

The Rail-Way from Havre to Paris has nearly a level grade, and is, consequently, carried through some ten or a dozen tunnels, two of which, I should judge, from the time required to pass through them, to be each about a mile in length. Lamps were kept burning in the tops of the cars, nearly all the way from Havre to Paris, for the purpose of dispelling the darkness and gloom in passing through the tunnels. The rocks in sight along the way appear to be all of the chalk formation, and the tunnels, for the most part, pass through beds of pulverulent chalk, filled with flint or hornstone nodules, and are lined with brick masonry. The soil, generally, appears to rest upon vast beds of pulverized chalk.

On my arrival in Paris, I took lodgings at the *Hotel des*



*Etrangers. Rue Tronchet, 24.* This hotel is in a central part of the city, and but a few steps from the great Madeleine Church. It is kept by an Englishman by the name of Sanders, and is made the stopping place of many English and American travellers, while sojourning in Paris. These circumstances guided my selection, and when I reached the hotel, I found that, at this time there are several Americans here.

JUNE 14. *Saturday.*—This morning, about 10 o'clock, I succeeded in finding my way to the residence of my kind friend, Mr. Vattemare, in *Rue de Clichy, 56*, and had the good fortune to find him at home. Indeed, he was almost *literally* buried among his books, being engaged in packing a large box, to be forwarded to the United States by the Franklin, on the first of July. Mr. Vattemare welcomed me with great cordiality, and, after showing me through his book rooms, he introduced me to his family. He then showed me his very extensive collection of coins and medals. The collection of American coins is more complete than any I have before seen, and among these were three or four copper coins, issued in Vermont previous to her admission into the Union. Among the medals were very many, which had been struck in different countries, in honor of Mr. Vattamare himself and his noble system of International Exchanges.

About noon we took our seats in an omnibus and proceeded to the *Jardin des-Plantes*, or Garden of Plants, which is situated in the extremity of the city nearly opposite to that in which Mr. Vattemare resides. We first visited the library, where I was introduced to M. Desnoyes, Librarian of the Museum of Natural History,

and, after spending a short time there, proceeded to the rooms of the Mineralogical and Geological collections. At the latter place I was introduced to the Professor of Geology, M. de Orbigny, who made me a present of his elaborate Geological Map of the Paris basin. I found him to be a very pleasant and agreeable man, and extremely modest and unassuming in his manners. In the mineralogical department, I noticed some exceedingly large and beautiful specimens of meteoric iron.

Mr. Vattermare having an engagement, we returned between 4 and 5 P. M., and, after getting my dinner, I went alone to see the *triumphal arch* at the head of the *Avenue de Neuilly*, called *Arc de Triomphe de l'Etoile*. This is the most magnificent and imposing triumphal arch in Paris, and, probably, is not exceeded by any in the world. It was begun by Napoleon in 1806, but was not finished till 1836. It was erected as a monument of the achievements and glory of the French nation. It is built of marble, is 152 feet high, 137 wide and 63 thick, consisting of two arches crossing at the center. On the exterior, and within the arches, are representations of warriors, and horsemen, and arms, and battles, beautifully carved in bold relief. From the top of this arch is obtained the most complete view of the whole city of Paris, and a large extent of surrounding country. Its cost was \$1,500,000. I could not look upon this noble and imposing structure, without admiration, but the pleasure of beholding it, was greatly marred by the reflection that, it was designed to commemorate and honor the success of armies in bringing misery and destruction, instead of prosperity and happiness, to the family of man. I returned to my lodgings by way of

*Champs Elysees* and *Place de la Concorde*, which were thronged with people of all ages and sexes, who appeared to have no other object, than to amuse themselves and pass away time.

JUNE 15. *Sunday*.—My first Sunday in Europe has come and gone, and the shades of its evening are now gathered around me, but how unlike it has been to a Sunday in New England! None of that solemn stillness—that sacred reverence of the day, to which I had always been accustomed. More, perhaps, were to be seen, in the morning, flocking to the confessional, than on other days, and manual labor was, to a considerable extent, suspended, but the shops were generally open for trade, peddlers were crying their goods for sale in the streets, and many women were sitting at the doors of their shops and upon the shaded side-walks, employed with their needles.

For the sake of a little exercise before breakfast, I walked out to look at the great Madeleine Church. I walked entirely round it, leisurely surveying the numerous and gigantic columns and statues, and then entered it to look at the interior, which I found to be exceedingly magnificent, abounding in beautiful columns, and sculptures, and paintings, with a large portion of the ceiling over head splendidly gilded. People were constantly entering and departing from the Church, and a considerable number within were silently engaged in their devotions.

This noble edifice has the rectangular form of a Grecian temple, and is without spire, tower or dome. It is built of marble—was begun by Louis XV, in 1764, and finished by Louis XVIII. It is 226 feet long, 130

feet wide, and surrounded by 52 Corinthian columns, 6 feet in diameter at their base and 60 feet high. All around the exterior there are niches in the wall, containing sculptured statues of male and female saints. The great door at the south front is of bronze, and is 32 feet high and  $15\frac{1}{2}$  wide. Over it, in the gable, is an immense alto-relievo sculpture, 118 feet long and 25 high in the centre, designed to represent the day of judgement.

At 11 A. M. I attended service at the Chapel of the English Ambassador. This Chapel is very neatly fitted interiorly, and will seat, I should judge, between six and seven hundred; and I found it very well filled. Three Clergymen officiated, one reading the lessons and prayers, another the ante-communion service, and the third preached. The sermon was good and practical, but not brilliant, and the music was thrilling, even in my dull ear.

At half past 5, I went to Mr. Vattermare's, having received a note from him this morning, inviting me to dine with him at 6 o'clock this afternoon. This interesting family consists of himself and wife, his mother, son-in-law and married daughter, with one child, a daughter about 16, and a maiden lady about 30 years old. About half past seven o'clock two Roman Catholic Priests, one of whom acts as Chaplain to Mr. Vattermare's family, came in to spend the evening. I passed the time very pleasantly, but most of the company could converse only in French, and my knowledge of that language was too slight to allow me to be much edified by their conversation. I returned to my lodgings about 10 o'clock, and have since been writing down the



occurrences of the day and reflecting upon the manner in which the Sabbath is here observed. The noise and bustle in the streets, though of a somewhat different kind, seems to be nearly as great, and the number of people greater, than on any of the other days of the week. Indeed, on Sunday all the houses seem to be emptied of their living contents into the streets, and squares, and promonades, some on their way to and from their devotions in the Churches, but a vast majority of them, apparently, seeking only amusement. The exhibition of waterworks at St. Clond, 5 miles from Paris, has, to day, drawn off thousands from this city to witness and enjoy it. Indeed, Sunday, here, is the great day for shows, and circuses, and amusements of almost every description.

JUNE 16. *Monday*.—Went this morning to the Bourse, or Exchange, and called at the Express office of Livingston & Wells, which is very near it, where I had an opportunity too see recent American Newspapers, and wrote my name in a book, kept there for recording the names and residences of visitors from the United States. The Exchange is a fine modern edifice, built of stone. It is 212 feet long and 126 wide, and is surrounded by a continuous range of 66 columns. At half past ten A. M. I went to Mr. Vattermare's, where I was introduced to Mr. Mohl, Corresponding Secretary of the Oriental Society, and a very distinguished Oriental scholar. About noon Mr. Vattermare went with me to the Hotel de Ville, or city hall, to look at the city library there, and the nucleus of the American library, which he is forming. This beginning of a Library of American books, though a mere trifle compared with the city library, in the same



building, would appear quite respectable in Vermont, being about half the size of that of the Vermont University. Mr. V. informs me that he has the pledge of the authority of Paris, that they will provide a suitable building for his American Library, in a central part of the city, with an alcove for each State, and the coat of arms of the State placed over it. Mr. V. has, at his rooms in *Rue de Clichy*, a large quantity of books, which are to form a part of the Library of American books, as soon as rooms are in readiness for their reception.

From the city hall we went to the celebrated cathedral church of *Notre Dame*. This is one of the oldest, largest and most remarkable churches in Paris. It stands upon an island in the river, which was the ancient nucleus around which the present city of Paris has grown up. I do not learn when it was commenced but I find it stated that service was performed in it in the year 1185. It is in the form of a cross, is 390 feet long, 144 wide and 102 feet high at the transept. The towers are 204 feet high, and its immense bell is said to weigh 32,000 pounds. The interior consists of the nave and double isles, and along the sides, are numerous beautiful chapels, some of which are sufficiently large for village churches. Its large windows are of stained glass, and the whole interior was much filled and ornamented with pictures, and statues, and crosses, and images. Among the ornamental sculptures of the immense dome, and nearly over the great altar, numerous sparrows had builded their nests and were rearing their young, and their chattering reminded me of the words of the Psalmist,

“The sparrow hath found her an house, where she may lay her young; even thy altars, O Lord of Hosts.”

The great Organ, in this church, is said to be remarka-

bly fine, and the west front and towers of the church are much admired by architects.

From Notre Dame Church we proceeded to the *Halle aux Vins*, or the Paris Wine Vaults. These are situated adjacent to the Garden of Plants, and, with the offices of the wine dealers, cover 23 acres. Mr. Vattermare introduced me to M. Sari, the Superintendent, who kindly spent, at least, two hours in showing us through the caves and cellars, and in describing the extent of the business and the manner of doing it, and I must say that I have seen nothing, since I left home, which has astonished me more than this establishment. These vaults are capable of containing half a million casks, and the business gives daily employment to more than 3000 persons, who are, most of the time, in the midst of the fumes of wine and brandy, and yet it is the most quiet and orderly place I have seen in Paris. The wines and spirits, from the country, are brought here and stored for sale. When sold and delivered, then the Government duties on them are paid, which, I am told, usually exceeds the original value of the article. The method of measuring the liquors is extremely simple, expeditious and exact. The apparatus is so arranged that the casks are drawn upon a platform, and their contents emptied into receiving vessels with graduated scales showing the quantity. The empty casks are let down below, the liquor returned into them, bunged up, and the quantity in each cask stamped upon it. On leaving the place the Superintendent kindly engaged to furnish me, while in Paris, additional particulars respecting the establishment and an abstract of the actual business transactions. I spent the little time remaining before night, in the Gar-

den of Plants, looking at the living animals, (among which I saw very few from the United States) and then returned, very much fatigued, to my lodgings.

JUNE 17. *Tuesday*.—This being Flower Market Day at *Place de la Madeleine*, I walked over there this morning to look at the display of flowers exhibited for sale. I found a large number of people employed in unloading, from their carts, flowers and flower-pots, and arranging them in tasteful order, and I was quite astonished at their multiplicity and variety. Some were in bouquets, placed in vessels of water, but far the greater part, were accompanied by the whole plants, growing in flower-pots. Among them were numerous varieties of roses, pinks, geraniums, asters, daisies, &c., together with many flowers, which, to me, were entirely new.

Paris is sometimes called the *City of Fashions*. I think it might also be called the *City of Flowers*. Besides the flowers brought in from the country and suburbs, flowers are cultivated in the city upon almost every foot of ground, which can be had for that purpose. Flower plots are met with almost every where, and some of them are very extensive and beautiful. Fairs for the sale of flowers are held, at this season, every day in the week. Two days, Tuesday and Friday, of each week, the Fair is at *Place de la Madeleine*; and I see it stated that, on some occasions, not less than 50,000 flower pots, valued at 75,000 francs, are exposed, at the same time, in the market place. Selling flowers here is really a great business.

At 11 o'clock Mr. Vattermare accompanied me to the Garden of Plants, and I took along with me the specimens of Vermont Fishes and Reptiles which I had

brought out for the Museum of Natural History of Paris. Went first to the residence of the distinguished ichthyologist, M. Valenciennes, and, finding him sick, proceeded to the Museum, where I had my specimens opened, and, on seeing in how bad condition they were, I was well-nigh sick myself. I had been at the trouble to procure specimens of about 30 species of our fishes and some 10 or 12 species of reptiles, and had them inclosed in a tin box filled with alcohol, and then soldered up air tight, and this box was inclosed in another of wood. But, notwithstanding all my labor and care, full one half of the specimens were completely spoiled. I had put too many specimens together, and they were so nearly afloat in the alcohol, that the motion of the ship kept them constantly moving and wearing upon one another, and the consequence was, that all the softer fishes were nearly dissolved. The reptiles and hard scaled fishes were in much better condition, and some of them scarcely injured at all.

After disposing of my fishes and reptiles, I took a stroll through the green houses, which are very extensive, and well filled with a great variety of tropical plants. I could there walk in the midst of groves of palm trees, 35 feet high and 6 or 8 inches in diameter, without encountering the dangers and inconveniences of a tropical climate. The varieties of cactus, cultivated, are exceedingly numerous, many of them being singularly grotesque in shape, and gigantic in size. Outside of the green house, on an elevated part of the Garden, stands a noble cedar of Lebanon. It was set out here by the elder Jessieu, in 1735, and is now a little more than three feet in diameter, 6 feet from the ground. Its branches are



mostly near the top and stretch out horizontally 12 or 15 feet in all directions. This tree, together with the palms in the green houses, reminded me of the beautiful figure of the Psalmist, when he says,

“The righteous shall flourish as the palm tree, and shall spread abroad like the cedar in Libanus.”

From the green houses, I went through the inclosures, in which plants are cultivated in the open air, and was there introduced to the Professor of Botany. These inclosures are very extensive, and the plants are admirably arranged and labelled, for facilitating the study of scientific Botany. The label contains the scientific name of the plant, and, if exotic, the country from which it was obtained. From the botanical department, I went into the division occupied by living reptiles, where I remained a while, and then passed along to the museum of Comparative Anatomy, in which the celebrated Cuvier labored with so much diligence and success, and, near which, a statue is erected to his memory. I found here many skeletons of Cetacea, but no Beluga, with which to compare my fossil cetacean bones found in Vermont, some of which I have with me. Wearied and footsore, I reached my lodgings about sunset, and thus closed my perambulations for the day.

JUNE 18. *Wednesday*.—Took a long stroll alone thro’ the northern part of the city, and reached Mr. Vattermare’s a little before noon, where I met the distinguished naturalist, M. Michili, to whom I had brought out a letter of introduction from Mr. Desor. At one o’clock I went with Mr. Vattermare to the meeting of the National and Central Agricultural Society. Mr. V. introduced me to the President, and to the Secretary M. Delegarde, before



the meeting was called to order. After the meeting was opened I was formally introduced to the Society as a *distinguished foreigner!* The discussions were animated, and much interest was manifested in the business of the meeting, but I was unable to profit by these discussions as I might have done with a better knowledge of the French language. After the meeting I was invited by the Secretary, M. Delegarde, to dine with him the next day at 5 P. M.

On my return, I visited the Lithographic establishment of Lemercier, said to be the most extensive in the world. From one position I could look down upon more than 100 lithographic presses all in operation at the same time. Many of the prints were run through, from 4 to 7 different presses, receiving a different color from each, and it was really surprising to see the facility with which elegant colored pictures were multiplied and the delicacy with which the colors were laid on by the printing-press. I next went to the Louvre, that world renowned repository of pictures, statues and choice antiquities. This noble building is in the form of a quadrangle, around an open court. Its eastern front is magnificent, being 500 feet long and 85 feet high, and finished in the finest style of architecture. It is in contemplation to have the Louvre fully united with the Tuilleries, forming the whole into one immense block. These two buildings contain objects of interest, for the examination of which, weeks would be required. I have hardly begun to look at them to day. The Garden of Tuilleries is a delightful place. That portion next the palace is beautifully laid out and cultivated, with flowers, orange trees &c., and has several

reservoirs and fountains, while more than half of the grounds, is thickly covered with large trees, beneath which the earth is hard and smooth, without vegetation, and forming delightful walks in a hot day. Among the other objects in the Garden, are interspersed a number of fine statues.

JUNE 19. *Thursday*.—Awoke this morning with a very sore throat, and so hoarse I could hardly speak, in consequence, I have no doubt, of a cold, taken yesterday, while sitting in the great hall of the Agricultural Meeting, after exercising under a hot sun. But, notwithstanding these and a severe head-ache, I ventured to accompany Mr. Vattermare to a meeting of the Central Horticultural Society of France. I was introduced to the meeting, as interested in Horticultural pursuits, and was cordially received. The Society, through the President, presented me their silver medal and requested me to become a corresponding member of the Society. The principal subjects discussed were the diseases of vegetables, and many specimens of diseased plants were exhibited.

On my return from the horticultural meeting, I stopped awhile at the *Palais Royal*, where I had the pleasure of witnessing the ascension of a monster balloon, carrying up six persons in a car suspended under it. There was no wind, and the carriage of the aerial travellers mounted very gracefully through the air. I watched it, till it had reached, at least, a mile above the earth's surface, and then went to look at the ancient church of *St Germain l'Auxerrois*. This church is celebrated for being the place from which the signal was given for the commencement of the

horrid massacre, on the Eve of St. Bartholomew's Day, the 23d of August, 1572. The bells of this church are said to have been tolled, during the whole of that dreadful night. The windows of stained glass, and some of the chapels in this church, are quite beautiful. We entered the church just at the close of a religious service, but not in season to hear anything more than the last chant of the confirmation office; the Bishop having been administering the rite of confirmation to about 100 candidates, who were distinguished by their white robes.

JUNE 20. *Friday*.—Had a very restless night, with considerable pain in my head and limbs, a hard cough, with soreness in the throat and across the chest, and no appetite for food,—symptoms indicating, I fear, an attack of lung-fever. The prospect of being sick so far from home, is, certainly, not a very agreeable one, but it would be more gloomy, did I not think that, in case of need, I could rely upon the kind attention of my friend, Mr. Vattermare, and that, if I should die here, he would inform my friends in America of the fact. But I hope, by the blessing of God, that the necessity of doing neither of these will be imposed upon him, and that I may soon get the better of my present indisposition.

Feeling that my alternatives were, either to go to bed, or to be moving about in the open air, I resolved upon the latter, and about noon dragged myself to the residence of M. Verneuil, the distinguished Geologist, to whom I brought a letter from Mr. Desor, but was sorry to learn that he was away on a geological excursion in Spain. I also called at the office of the Amer-

ican Legation, and left a letter to our Minister, Mr. Rives, which was entrusted to my care by my friend and college class-mate, Orson Kellogg, of New York. In the afternoon I made my way to the *Bibliothèque du Roi*, or National Library, on rue Richelieu. This is one of the largest, if not the very largest, library in the world. The building, containing it, is 540 feet long, and 130 feet in width. The contents are stated at 1,000,000 printed books and pamphlets, 100,000 manuscripts, 100,000 medals, 1,400,000 engravings, and 300,000 maps. Among the manuscripts, are many, which are very ancient and interesting. I spent some time in turning over the pages and admiring the illustrations of what is said to be the original manuscript of Froissart's Chronicles of the Kings of France and England. It is most clearly and beautifully written, with illuminated capitals, and richly bound. Connected with the library, there is a fine collection of ancient statues, armour, coins, &c. I noticed some splendid ancient cameos, beautifully sculptured, I think, in onyx-stone. Some of them were as large as a common sized breakfast plate, and several were set in frames of pure massive gold. Among the armour were many brazen helmets and coats of mail, which were worn by the ancient Kings of France.

JUNE 21. *Saturday* — Was very much fatigued by my efforts yesterday, and retired feeling quite unwell, but, getting a little sleep during the night, I found myself some better this morning. I have, however, coughed almost incessantly. Spent most of the forenoon, with Mr. Vattermare, at his rooms, and in the af-



ternoon he accompanied me to the *Champ de Mars*, to witness a review of troops by Napoleon, the President of France. *Champ de Mars* is a clean level plat in the southern part of the city, which is half a mile long and one eighth of a mile wide, and is used for parades, reviews and races. The number of troops reviewed to day was said to be 20,000. The whole number in and about Paris is near 100,000. I saw Napoleon only at a distance, on horseback, and could discover nothing about him, which would lead me to think him any thing more than a man. But, judging from what I hear said, I should think he had been, of late, gaining in the estimation of the better part of the nation, and that they would prefer that he should continue to hold the reins of government, rather than risk the experiment of a change.

The review did not confirm the favorable opinion I had formed of the appearance of the French troops. The men did not appear to me to be either remarkably well sized, or well trained; nor was there that regularity and precision in their evolutions and movements, which I had expected. The horses made a sorry appearance. There were many stout heavy bodied horses, particularly those attached to the artillery, but I noticed very few, which moved with the easy and graceful majesty, which are characteristic of many of our American horses. Many of them had that stiff, pounding gait, which, in the view of a Vermonter, would, at once, characterize them as *French Horses*.

On my return from Camp de Mars, stopped at the *Hotel des Invalides*. This very extensive establishment



is for the reception of superannuated and disabled soldiers, of whom more than 4000 are here daily fed, and for the most part, lodged, at the public expense. This establishment occupies 18 acres. The main building is 612 feet long, 4 stories high and lighted by 133 windows, besides attics. The gilded dome, over that portion occupied as a church, has the richest exterior of any one in Paris. Directly beneath this dome is the tomb, in which, are deposited the earthly remains of the Emperor, Napoleon, which were brought hither from St. Helena. I visited the kitchen where the cooking is done for this great family. Every thing seemed well arranged, but on a gigantic scale. The soup-kettles would hold, at least, a barrel each.

The sight of these shattered specimens of humanity, and the consideration of the causes, which brought them to their present condition, were calculated to produce melancholy reflections. Many of these men had carried the arms of France into foreign countries, and had fought and conquered under Bonaparte. They had marched erect, and firm, and irresistible on the field of battle, but now, how changed! Scarred, and maimed, and bowed down by infirmity and disease, they are tottering towards their graves with weak and trembling steps. Many of them have lost a hand, or a foot, or a leg, or an arm, and some of them have bartered more than one of their limbs for the glory of a victory under Napoleon. Arranged in the yards of the establishment are many large cannon, which are preserved, as trophies of foreign victories. In these

the enfeebled veterans proudly exult, and, among them, they daily, in imagination,

“Fight all their battles o’er again.”

JUNE 22. *Sunday*.—A rainy day; and my cough being very bad, have not attended church. There has been a great display of Water-Works to day at Versailles. and many Americans went out this morning to witness them. Versailles is 12 miles southwest from Paris, and the two places are connected by two Rail-Ways. The palace, picture galleries and fountains at Versailles are said to be the most remarkable in France. The playing of the fountains there takes place only a few times in the course of the year, and these exhibitions, I am told, are almost always on Sunday, so that protestant travellers must, for the most part, either forego the pleasure of seeing them, or do violence to their consciences by breaking the Sabbath. To pass through all the rooms and galleries of pictures at Versailles, is said to require a walk of 7 miles.

JUNE 23. *Monday*.—At Havre my American passport was taken from me, and I was furnished with a French passport to be taken with me to Paris. Hence it becomes necessary, on leaving Paris, to regain my American passport, to enable me to go out of the country, and proceed to England. For this purpose I went, to day, to the office of the Prefect of Police, where I surrendered my French passport, and received the one which was taken from me at Havre, with instructions to have it certified by the American Secretary of Legation, and then brought back for further signature at the Police office. I followed the instructions, so far

as to get the signature of the Secretary of Legation, but, believing that it was ordered back for further signature at the Police office, only for the purpose of claiming another fee of two or three francs, I have determined to disobey that part of the order, and risk the consequences.

In the afternoon I went to Mr. Vattemare's rooms, and, thence, through a portion of the north part of the city, where I passed a parade ground, and had an opportunity of witnessing the maneuvering and drilling of a division of the French troops. There were, perhaps, 12 or 15 hundred on the parade, in several different squads. The evolutions and exercises were, to a considerable extent, unlike any thing I had ever witnessed in America. Most of the movements were very sudden and violent, and yet there seemed to be great exactness and precision in all the performances.

JUNE 24. *Tuesday*.—Have visited, to day, the Palace and Gardens of Luxembourg, the Pantheon, &c. These are all situated in the southern part of the city. The Gardens occupy, I should judge, about 40 acres. The Palace fronts them on the north side, and is a large and elegant building, but, being situated lower than the grounds in front, it does not exhibit that grand and imposing aspect, it might have under other circumstances. It was built by Marie de Medicis, in 1615. In 1795 the Directory held its sittings in this Palace, and under the Consulate, the Consuls had their sittings here. On the creation of the Chamber of Peers, in 1814, it became the place of their meetings. It contains a picture gallery, for the reception of the best

works of living artists, which are purchased and placed here by the government. In front of the Palace is a fountain and a beautiful pool of water, and the gardens furnish delightful promenades, with shady avenues, lined with fine marble statues. The broad and smooth avenue, leading from the front of the Palace, through the garden, and onward, in a strait line, to the National Astronomical Observatory, is very handsome. It was in this avenue, between the garden and the observatory, that Marshal Ney was shot, in 1815. The southwestern section of the garden, is devoted to the cultivation of fruit trees,—mostly cherries and pears. The cherries are now ripening, and the young pears average, in size, a trifle larger than a ripe cherry. The pear trees are all trained in the form of sharp cones, which the French call *Quenouille* (distaff) training. The trees appeared to be about 8 feet apart, and might average 12 feet in height. The lowest limbs, in most cases, come out about 18 inches above the ground, and extend, horizontally, two or three feet. They are shortened, by cropping in above, giving the tree the shape of a cone. The advantages of this, over the ordinary method, seem to consist in allowing more trees to grow on the same plat, and in making them more productive, in consequence of the horizontal training of the limbs.

From the Luxembourg I went to the Pantheon, which is situated only a few rods to the eastward, in *Rue St. Jacques*. It was finished in 1764, and I look upon it as one of the most chaste and classic structures in Paris. It is in the form of a cross, being about 320



feet long, 240 wide, and 282 feet to the top of the dome. The columns are very numerous, the whole number, within and about the edifice, being stated at 258. The interior, which is all in one vast room, reaching upward to the crown of the dome, appears quite naked, there being only a few statues and paintings within, but these are of a high order. It was in this building, with a ball, suspended by a wire from the center of the great dome, and vibrating near the floor, that M. Foucault first demonstrated the earth's rotation on its axis, by rendering it visible to the eye. His apparatus is still here, but the ball is not suspended. His graduated circle is in the form of a hoop, and elevated about 20 inches from the floor. Its diameter is about 14 feet.

JUNE 25. *Wednesday*.—Having fixed upon to-morrow for my departure from Paris, I have spent most of the day in making hasty calls. I called, first, upon Mr. S. G. Goodrich, the American Consul, by whom I was introduced to his wife and daughter. Called at the residence of the American Minister, but he was away, and did not see him. Called also and took leave of my kind friend, Mr. Vattermare, and went, for the last time, I suppose, to the Express Office of Livingston & Wells, to look at the Register of American names and the files of American Newspapers.

During my stay in Paris, I have observed many things which were novel to me, and of which I had hoped to note some account in my journal, but have not, hitherto, found any time: nor have I time now to call them to mind and write them out. But, as I expect to leave Paris



to-morrow, I will here record a few general remarks. I have found things very different here from what I had been accustomed to, at home, but no more so than I had expected. Indeed, I have experienced much less annoyance and trouble from government surveillance and police regulations, than was anticipated. Soon after I took lodgings at the *Hotel des Etrangers*, mine host sent to my room for my passport, which was returned in the course of half an hour, and that was the only inquiry, which has ever been made for it; and that inquiry was in consequence of a regulation, which imposes a considerable penalty on keepers of public houses, who do not furnish proof that the foreigners, who have taken lodgings with them, are in the possession of regular passports.

In Paris, and, indeed, in all parts of France, I think Americans, generally, are treated with more respect than the people of any other foreign country, and to this general friendly feeling towards Americans, more than any thing else, I attribute the kind attentions I have received during my sojourn here.

The mode of living and manner of eating here, differs very much from ours. With us, at our principal meals, a considerable variety of dishes, is usually brought upon the table, at the same time, but here, seldom more than one or two. With some exceptions, the dinner courses are nearly as follows: first a roll or piece of bread is placed by the side of each person's plate, then comes the *soup*. The dishes being removed, then is brought the *fish*—then the *mutton* or *lamb*—then the *veal*—then *beef*—then the *fowls*—then the *potatoes*—then the *salad*—then the *pudding*—then the *strawberries* or *other fruits*

—then the *cheese*—and lastly, the *coffee*. The wine runs freely through all the stages. When tea or coffee is taken, morning or evening, each one has his own tea or coffee pot, from which he pours out and seasons, with sugar and cream, to his own liking. The bread I have usually found to be of good quality, but the loaves are often of singular forms. The common bread is mostly in rolls, about three feet long and four inches in diameter, resembling, in form, a huge war-club. It is common to have one, or more, of these standing in the corner of the room, with the lower end resting on the floor, while pieces are cut, as they are required, from the upper end. When piled upon a hand-cart and wheeled through the streets, as is frequently done, they would be mistaken at a little distance, for a load of round wood. The butter is usually brought upon the table, entirely fresh, and each person salts, what he eats, to his taste. Board and lodgings may be had at almost all prices, depending upon kind, place and circumstances. I have had a comfortable room with good board and bed, at the *Hotel des Etrangers*, for \$1.50 per day.

The conveyances to different parts of Paris are convenient, under good regulation, and the charges moderate. Omnibusses run through all the principal streets and to various public places, and the charge for any distance within the city, is only six *sous*. Besides these, great numbers of coaches and cabs are waiting at different stations, which may readily be had for any special service. These are paid by the hour, distance, or places of stopping. The authorized charge per hour, is thirty *sous* for the first, and twenty-five for each subsequent hour. The cabs are all numbered and the drivers are

under the strict surveillance of the police. On entering the cab, the driver gives you his number, and then, if you are any way maltreated by him, you have only to hand the number and state the case to a police officer, and the driver is called at once to give an account of himself.

Among the interesting places in Paris, the *Place de la Concorde* is the most central and beautiful. It has *Champs-Elysees* on the west, and the *Tuilleries* on the east. The north is covered by two immense symmetrical buildings occupied by the government, and the south by the Seine, over which a handsome bridge leads to the palace of the National Assembly. The *Place de la Concorde* measures 750 feet from north to south and 528 from east to west. It is surrounded by groups of statues and sunken gardens, and is splendidly lighted by night with gas. In the center stands the granite obelisk of *Luxor*, covered with hieroglyphics, on each side of which, at a little distance, are beautiful fountains, which are kept playing during the day and evening. The device of these fountains is somewhat fantastical, consisting of human figures, supporting above them, a large basin, and each holding a dolphin under his arm, from whose mouth a stream of water is ejected upward over the head of the statue into the basin; over the rim of which, it flows down into the reservoir at the base.

At the time of my visits to the Garden of Plants, I noted, in my journal, very little respecting the wonders of that vast and interesting establishment, intending to be more particular when I had become better acquainted with it. But my indisposition has, in a great measure frustrated my intention. The Garden of Plants is, I believe, under the control of the Minister of the Inte-

rior. It consists of six general departments, viz: 1.—A Botanical Garden, with spacious green-houses; 2.—Galleries, in which are arranged vast collections, belonging to the three kingdoms of Nature; 3.—A Gallery of Comparative Anatomy; 4.—A Menagerie of living Animals; 5.—A Library of Natural History; 6.—An Amphitheatre and Laboratory, for Public Lectures. The Lectures, two or three being delivered daily, from April to the end of August, are all gratuitous.

Among the multifarious employments of the people of Paris, there is one which has afforded me no small amusement. Very early each morning, the streets and side walks are all swept, and the dirt and rubbish gathered into little piles along the gutters. This is no sooner done, than sundry persons, male and female, with baskets suspended upon their backs, and sticks in their hands having a crooked nail in the end, may be seen passing from heap to heap, and snatching various little articles with their hooked nail, and whirling them dexterously over their heads into the basket. These are called *Chiffonniers*, or Rag-gatherers. They pick out and carry off, not only the rags, but the smallest scraps of paper and bits of bone. Large numbers are said to pursue this business for their living; but scanty—very scanty, methinks, must be the pittance of those who rely upon it.

JUNE 26. *Thursday*.—Having adjusted matters with "*mine host*," I proceeded to the Rail-Way station, and at 9 this morning, took my final leave of Paris, and arrived at Havre at half past 2 this afternoon. Here I am to remain till half-past 10, and then leave in a British steamer for Southampton.



As I passed up the Seine to Paris on the 13th of June, I observed that the farmers were just beginning to cut their hay, and to-day, as I came down, they seemed to be in the very midst of their haying. In my rapid flight through the country, I had little chance to observe the growing crops. Rye seemed to predominate for some distance below Paris, and from thence to Rouen I noticed some fine orchards of plums, cherries and pears, and between Rouen and Havre, a few good apple orchards. I have observed, to-day, several extensive fields devoted to the cultivation of mustard. It is just beginning to ripen, and there appears to be a very heavy growth of it upon the ground.

I have spent my time, since my arrival, in wandering about this ancient city. Havre is a town of considerable size, and of great commercial importance, on account of being the chief sea-port of Paris. The docks and accommodations here, for shipping, are quite extensive, and are still being enlarged. They are separated from the river and bay by a long line of fortifications. The docks are of great depth, inclosed by massive walls of hewn stone, which are very compactly filled behind with gravel and nodules of flint, from the chalk formation. Much difficulty is, however, encountered in entering the docks, on account of the great and rapid rise and fall of the tide, which has a sweep of 22 feet, between high and low water mark. Large vessels are, frequently, obliged to wait, in the bay, several hours, before they can enter the docks, or come to land. Just within the docks, there is an extensive range of buildings, erected by government for soldier's barracks, but used, in part, I am told, for a prison.

The Franklin was lying in her dock, where I left her two weeks ago, with the stars and stripes floating gracefully over her. I went on board, where I found one of the mates, the purser and the engineer, comfortably seated in the beautiful dining saloon, taking their dinner. I was cordially invited to partake with them, but was obliged to decline, on account of having just dined on shore. It really seemed almost like getting home, to be once more on board of an American ship. Capt. Wotton, I was informed, left Havre this morning, for Paris.

In the lower and older parts of Havre, the streets are narrow, dirty and disagreeable, and all the buildings have the appearance of great antiquity. But, in the newer and higher parts, and, particularly, upon the rising grounds towards the north-west, which overlook the city, there are many large and elegant buildings, and delightful residences, surrounded by beautiful shade trees and gardens. I came on board the steamer a little after sunset, and now, having completed my few notes, I shall pack myself away in my berth, and await the hour of departure.

JUNE 27. *Friday*.—I was very fortunate, last night, in coming on board and in retiring early to my berth, for I, thereby, secured an indifferent nap before the steamer started, and a good berth for the whole night, which less than half were able to do, on account of the smallness of the boat, and the great number who crowded on board. I was somewhat aroused by the noise and confusion occasioned by the preparations for departure, and in getting under way, and I have some faint recollection of seeing two stern looking men, in official habit, one holding a lantern, who shoved aside the screen in

front of my berth, and demanded my passport. I very submissively handed it to them, and, after looking at it a moment, they returned it to me and quietly retired. By my great day's work, yesterday, I had got exceedingly fatigued, and the fatigue, together with an almost incessant cough and stricture across the lungs, prevented my getting any sound sleep during the night, and yet, I was so dozy and stupid, that I was hardly aware that the steamer was under way till morning; but when I arose, about sunrise, I found that I had, not only taken my leave of France, but was, already, out of sight of land.

During my stay of 14 days, I have seen only a very small portion of the country; but that small portion is an important one, and shows very conspicuously in the annals of France, and of Europe. Paris is literally the nucleus—the heart—the *city* of France, and all the rest of France has been aptly designated as its suburbs. The beats and spasms of this heart, like that of the human system, are felt in the utmost and minutest extremities of the nation.

Rouen and Havre—the lower valley of the Seine, that granary of ancient Normandy,—to the former greatness and importance of these, the pages of history bear ample testimony; but these are now all overshadowed by the Great Metropolis. About eight hundred years have now elapsed, since William, Duke of Normandy, passed over these waters, which we are now traversing,—landed in Sussex—fought the battle of Hastings—seated himself on the throne of Britain—and became William the Conqueror. What changes have since taken place! what events have since transpired!

As we passed along, on our way to Southampton, we had a charming view, on our left, of the Isle of Wight—its high chalk cliffs and smooth grassy lawns—its gentle hills and vallies and its delightful groves—its neat cottages and splendid mansions; and on the right, of Gosport and Portsmouth, and a beautiful line of coast stretching off to the east. The two principal places seen on the Isle of Wight are Rye and Cowes. Between these, on elevated grounds, stands the Queen's new Palace, called the Osborne House. It commands a fine view of land and water scenery, and appeared to good advantage, as we passed it this morning, lighted up and burnished by the rising sun.

It was about 8 o'clock in the morning, when we arrived at Southampton, where I first set foot on the soil of England. As I was to leave at 9, in the cars for London, I had my baggage, after being inspected, conveyed directly to the Rail-Way station, while I proceeded thither on foot. On my way I was beset by the greatest number, and most importuning gang of runners from public houses, that I have ever encountered. In walking from the dock to the station, I had no less than seven cards thrust into my hands, setting forth the superior advantages of as many hotels. After seeing my baggage safely deposited, I went into the nearest public house, whose card read

“ For Plain Breakfast, . . . 1s.,  
For Dinner, . . . . . 2s. 6d. &c.”

and called for a plain breakfast. I was informed that it was ready, and was conducted into the eating-room, where I found a table set with bread, butter, and some



joints of cold meat. The table appeared quite naked, to be sure, but as bread and butter and black tea usually constitute my bill of fare. I made no words about it, but sat down, ordered a cup of tea and commenced eating. In the mean time, others came in and seated themselves at the table, to the number of near a dozen. Having eaten some bread and butter and a small slice of cold mutton, and drank two cups of black tea, I rose from the table, and handed out a shilling to pay my bill; but was told that a shilling only paid for a *plain* breakfast, and I had eaten some meat, and must, therefore, pay 1s. 8d. I was somewhat surprised at the demand, but, as it was the first meal I had eaten in England, and as I had no authoritative means of determining the true meaning of a *plain breakfast* here, I handed over the additional eight pence, and took my leave. Nearly or quite all of my companions at the table, partook sparingly of the meat, but, whether they knew, at the time, that they were partaking of something superior to a plain breakfast, or learned it afterwards, when they came to pay their bills, I did not wait to ascertain.

I had only a few moments to look about Southampton, but in that time I observed that some improvements were being made, and that there was a very extensive dock in the course of construction. I left in the cars, at 9, and reached the London station, near Waterloo bridge, about 1 P. M., passing through a level, highly cultivated and charming country. The growing crops promise, I should judge, a good harvest, and the farmers are now generally, engaged in securing their hay. The fences are, mostly hedge, and the hedges, I think, generally hawthorn. The distance from South-

ampton to London is 80 miles by Rail-Way, and the fare, in second class cars, \$3. The grade is very level, and no tunnels are required, in which respect, it differs from the Rail-Way between Havre and Paris. As in France, so do people here of high respectability, ride in second class cars ; but in England the second class cars, though very comfortable, are not cushioned. In France they are cushioned, but not so richly as those of the first class. Both in France and England, the cars are entered on the sides, and not at the ends, as in the United States, and the seats reach across them, like those of a coach. The cars generally carry 20 or 25 persons each.

On reaching the Waterloo station, in London, I procured a cab, and proceeded directly to Morley's Hotel, Trafalgar square. I found that my friend, Henry Stevens, Jr., Esq., from Vermont, was still stopping here, but that, being on one of the juries for the award of prizes at the Great Exhibition, he was, at the time of my arrival, employed on that business at the Crystal Palace. He returned about 4 o'clock, and I was received by him very cordially, but was sorry to learn that no letters, directed to his care, had been received for me, from my friends in America. Learning that mails for the United States are made up and forwarded from London, every Saturday, I finished several letters, which I had commenced in Paris, and committed them to the Post.\* I find myself, this evening, very much fatigued, and quite unwell, with no appetite for food. The inflammation of my lungs and cough, which have

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\* One of these, to the Editor of the Burlington Free Press, was published in that paper on the 10th of July.

afflicted me, since I took my severe cold in Paris, have been considerably aggravated by the heat and dust, on the way from Southampton to London, and, I fear that the smoke and dust of London are not doing very much to improve them.

JUNE 28. *Saturday*.—Committed, this morning, to her Majesty's penny post, those letters, which I had brought out with me, and which I did not expect to deliver, personally. At 11 o'clock, went out to call upon the distinguished British Naturalist, to whom I had letters of introduction from my friends, Prof. Agassiz and Dr. Storer of Boston. Not finding him at home I left my letters, packages and address. In the afternoon I called, with like success, at the Museum of the Geological Survey, with letters and a package from Prof. Agassiz, for Prof. Forbes, and, at the British Museum, the same for Mr. Gray. They were both away at the Crystal Palace at the time.

I have seen, yet, only a very little part of London—scarcely any thing beyond what is immediately around Trafalgar Square, upon which delightful place, I am now looking down from the windows of Morley's Hotel. This square measures, I should judge, about 25 rods by 15, and was formed during the reign of George IV, by clearing away an irregular cluster of old buildings, and narrow streets, and alleys. It is now surrounded by good buildings, Morley's Hotel occupying the east side, the National Gallery of Painting and Sculpture the north, the College of Physicians and the Union Club House the west, and the Northumberland House the south. At the northeast corner of the

square, stands the handsome church of *St. Martin-in-the-Fields*. The whole square is paved with large slabs of Portland stone, and contains two fountains, which play during the day and evening, each being surrounded by a large basin, or reservoir. The northern part of the square is considerably elevated above the southern part, and the descent, from the former to the latter, is by stone steps. On the higher part, towards the northeastern corner, stands a fine equestrian statue of George IV, and it is said that there is to be a corresponding statue towards the northwestern corner. Nearly midway in the south, or lower side of the square, stands

“A monumental pile,  
Designed for Nelson of the Nile!  
Of Trafalgar and Vincent’s heights—  
For Nelson of the hundred fights.”

This column, surmounted by a statue of Nelson, surpasses any other in London. Its total height is 176 feet, of which, the statue of Nelson makes 18 feet. The column is of granite, and fluted. Upon the four sides of the square pedestal, are placed, in bronze *baso-relievo*, representations of Nelson’s four great battles, viz: St. Vincent, Copenhagen, Nile and Trafalgar. On the south side are the memorable words of Nelson—*England expects every man to do his duty.*

JUNE 29. *Sunday*.—Yesterday, as I was in front of Morley’s, in the midst of the mingled and incessant noise and jar, and roar of the city, sweet notes of music struck clearly upon my ear, as if proceeding from a hand organ, or some other musical instrument, very near me. I looked around me, but could not discover



whence it came, and it was some little time before the fact was revealed to me, that these sweet tones proceeded from the bells in the tower of St. Martin's-in-the-Field. This church has an excellent chime of 12 bells, and their peal was continued, yesterday, for an hour, without intermission. To day, it commenced at 10 A. M. and continued till 11, the time of commencing morning service. I learn from Leigh's Picture of London, that *Nell Gwynne*, who was buried in the yard of this church, left a legacy, for the express purpose of paying for the ringing of its bells.

This church, being but a few steps from Morley's, where I am stopping, I concluded to attend its services, and, at 11 A. M. proceeded thither. I made my way through the crowd into the broad aisle, but found it, and all the pews, completely filled. I remained standing in the dense crowd, till the services were about half over, and then, wearied with standing, and almost suffocated, I made my way out, and returned to my room. In the afternoon I went there again, and found no difficulty in getting a good seat, the house being not more than half filled. At this time I was able to join, understandingly, in the services of the church, which I could not do in the morning. The sermon was not splendid, but good. This church was erected just 125 years ago, and is regarded as one of the best parish churches in the Metropolis. It is built of stone, 140 feet long, 60 wide, and, the body of the church, 45 feet high. Its steeple is very lofty and imposing, and contains a good clock and, as already mentioned, a chime of 12 bells. It has a handsome

portico of eight Corinthian columns, and is approached by a long flight of steps. The interior is very beautiful, and the organ, which was presented by George III, is regarded as very excellent.

After church service I took a long walk with my friend, Stevens. We passed through St. James' Park, Green Park and Hyde Park, making a circuit entirely round the Crystal Palace; so I have had an outside view of the world-famed structure, but have not yet seen the interior. We found all the parks alive with swarms of men, women and children, gossiping and promenading in the open air. Being fatigued by our long walk, we returned, in an omnibus, to Talfallan Square; and, being obliged to take an outside seat, and the evening air being chilly, I fear I may have added to my cold, as my lungs seem much inflamed and my cough almost incessant.

JUNE 30. *Monday*.—Went this morning, to the Museum of the College of Surgeons, at Lincoln's-Inn-Fields, with my letters and package for Prof. Owen, and, not finding him at his rooms, I left them, together with my card, and then spent some time in looking at the articles in this interesting museum of Comparative Anatomy. On my return from the museum, I called upon Mr. Yarrell, from whom I had received a note, but too late for me to accept the invitation it conveyed to me, to breakfast with him this morning. I, this time, found him at home, and he invited me up to his rooms, to look at his collection of birds and fishes. It is not extensive, but embraces a large proportion of the British species, and the specimens are very neatly

and prettily prepared. Went, just at night, and delivered letters to Mr. Markham, on Upper Gower Street, Mr. Atkinson, on Gordon Square and Miss Whitby, on Queen's Square.

JULY 1. *Tuesday*.—Called at No. 11, Harley Street, with my letters and package for Sir Charles Lyell, and, being informed that he was away, left them, and was passing out into the street, when the servant called to me that he had arrived, and requested me to walk into the house again. I returned, where I met Sir Charles, who informed me that he was going down immediately to Ipswich, to the meeting of the British Association, and, at the close of that meeting, it was his intention, to go over to the continent on a geological excursion. Fearing that my presence might incommode him, under these circumstances, I remained but a few moments, and then took my leave, expecting to see him again at Ipswich, during the meeting of the Association. In the afternoon I visited the House of Lords, in the New Parliament House, in which the Court of Appeals was then in session. It is a most splendid room, the ceiling being gorgeously gilded, and the seats cushioned with the richest crimson velvet. There was a very little rain this morning, but the weather, during the day, has been hotter and more oppressive than I have felt it any time since I arrived in Europe. My cough continues very severe.

JULY 2. *Wednesday*.—Coughed badly this morning, and raised some blood from my lungs, as I have done several times before, since I took my severe cold in Paris. At 10 o'clock I entered, for the first time, the Crystal Palace. My expectations had been raised pret-

ty high, with regard to this building, and its contents, but the reality, I think, fully equals them. There is not, however, within, that sense of greatness, or vastness, which one is lead to expect from seeing it on the outside, and knowing its measurements. But this is, probably, owing to the many partitions, and divisions, and to the great number, and magnitude of the articles, which occupy the interior. I first took a hasty look through the department occupied by the articles from the United States, which is at the east end of the building, and then passed along one side of the nave to the west end, and returned on the other side. I found the United States' Department, as had been represented, appearing rather vacant, and yet I saw many good things there. The nave and transept contain several beautiful fountains, which are kept constantly playing, and there are, arranged throughout the whole extent of both, a succession of fine statues and other choice specimens of sculpture. Among these, connected with the American division, I noticed, with satisfaction, Powers' Greek Slave and Sanderson's Wounded Indian. In these fine specimens of art, Vermont may claim some interest, since the sculptor of the former, and the marble of the latter, are both natives of our Green Mountain State. Who ever thought, when they saw Hiram Powers, playing his boyish gambols on the banks of the Ottaquechee, at Woodstock-Green, in Windsor County, that in him was that creative power, which would, one day, call forth from the shapeless marble, that perfection and grace of form, attitude and expression, which are exhibited in his Greek Slave and other works? Certainly, I did not. My examination



of the articles on exhibition, have been so hasty and limited, that I shall not attempt to give particulars at present.

To-day, occurred the last Exhibition, for the season, of Flowers, at the Royal Botanical Gardens, in Regent's Park. This morning, I received a note from my kind friend, George Atkinson, Esq., accompanied by a Ticket for the Exhibition, from Mrs. Atkinson, who insisted upon my attending, as it would give me a better opportunity to see the manners, dress and equipage of the higher ranks and nobility, than I might otherwise expect to have. I reached the Gardens about 4 P. M., where I spent something more than an hour, as pleasantly as was possible, in the existing state of my health. The display of rare plants and gay flowers, was exceedingly great—equalled only by the beauty, and dress, and equipage of the wealth and aristocracy of London, here assembled to witness it. The number of persons at the Gardens was estimated at 10,000, and the number of carriages at 1,500; and these, nearly all, belonged to the *upper thousands*. The display of richly caparisoned horses, of gilded and glittering carriages, and of liveried coachmen and waiters, far exceeded any thing I had before seen. The flowers exhibited, were not only very numerous and varied in kind, but appeared remarkably fresh, large and perfect. There was an excellent band of music in attendance, which added much to the animation and pleasure of the exhibition. On my return to Morley's, I found that Prof. Forbes had called and left his card for me; and found, too, a note from my Vermont friend, W. F. Shattuck, Esq., who has been spending some time in London.

JULY 3. *Thursday*.—Wrote and sent off letters in the morning, and at 12 o'clock made my first call on the American Minister, the Hon. Abbott Lawrence, that being the hour at which he receives company. He received me very cordially, and offered to furnish me with tickets to the Royal Observatory, and some other places, if I wished to visit them. On taking my leave, he requested me to call again, on my return from Ipswich, to which place, I had told him, it was my design to proceed this afternoon, in order to attend, at that place, the meeting of the British Association for the Advancement of Science.

Having returned to Morley's, I settled my bill, amounting to about £4 for six days, and, with my travelling-bag, containing a few articles, proceeded to the station of the North-Eastern Rail-Way, at Shoreditch, which I reached in season for the 5 o'clock train, and proceeded by it to Ipswich, 68 miles, where I arrived between sunset and dark. Understanding that the public houses were much crowded, on account of the meeting of the Association, and the visit of Prince Albert to Ipswich, I took tea and lodging for the night, at a private boarding house, and bespoke a breakfast in the morning.

JULY 4. *Friday*. I arose this morning, quite early, and finding none of the people of the house up, I walked out to look at the city, and, after passing through a number of streets, returned and obtained my breakfast about 8 o'clock. On inquiring the terms upon which I could have board and lodging during my stay in Ipswich, I was told that the charge would be 5s. a night for room and bed, and from 1s. to 3s. a meal, according

to what I had. Regarding these charges as somewhat extravagant, I paid for my two meals and lodging, and resolved to make inquiries elsewhere.

While at London, my friend, Mr. Yarrell, had given me a letter to George Ransome, Esq., the local Secretary of the Association at Ipswich, and I, therefore, proceeded immediately to his residence, where I was introduced to several members of the Association, and generously furnished with a ticket, giving me free admission to all the meetings. Before proceeding to the reception room, however, I called upon Prof. Forbes, at his boarding place, by whom I was introduced to Prof. Sedgwick, Prof. Phillips, Prof. Airy, and some others.

The Association, for the reading of papers and oral discussions, is divided into six or seven sections. There is a kind of informal general meeting at the reception room in the morning, and at 11 o'clock the sections proceed to their respective rooms in different parts of the city, where they usually continue in session till 4 P. M. Under these circumstances, one almost covets ubiquity, to that extent, at least, which would enable him to be present in more than one section at the same time; but, as I could not hope this, I concluded, from what appeared on the programme, that I should be most interested and benefitted by the proceedings of the Natural History Section, D, and I attended it accordingly.

The papers read, and the subjects discussed in this section were generally interesting, but the most important paper was that of Prof. Forbes, on the geographical distribution of molluscs. Just before the reading of this paper, there was a loud clapping at the door, and, immediately afterwards, eight or ten gentlemen entered

the hall, and were seated on the right of the chairman. One of these was Prince Albert. After the reading of the paper, they arose and retired. The Prince came down to Ipswich, yesterday, in the morning train. As I came down in the afternoon, flags were flying at all the stations, and every body was praising Prince Albert. Over the principal streets in Ipswich, triumphal arches, formed of trees and leafy boughs and flowers, had been erected, and splendid flags, bearing mottos and devices, complimentary to the Prince and the Queen, were waving over them.

After the adjournment of the Section, I went with the multitude, to see the Prince use the trowel, in laying the corner-stone of a large building, which is about being erected for the accommodation of the public Grammar School of Ipswich. The number of spectators present, was judged to be seven or eight thousand. After a few ceremonies and short addresses, a prayer was offered up by the Rector and Head-Master of the School, and then the Prince took the trowel, spread the mortar, and, the stone being let down upon it, he very gracefully rapped it down with the handle of the trowel, adjusted the mortar around the edges, and that closed the ceremony.

The reception committee having kindly provided me lodgings, at the house of the Rev. Mr. Greenfield, 2d Master of the Grammar School, I proceeded thither, after the above ceremonies, and found my accommodations very comfortable, and the family, consisting only of Mr. G. and his wife, a newly married couple, to be very agreeable. At 8 P. M., I went to the Corn Exchange, to hear a public lecture, upon the line of distinction between animals and plants, by Prof. Owen; and a most



interesting lecture it was. He pointed out, with admirable clearness, the lines of demarkation, which have heretofore been proposed, and showed that while most of them were true, to a very considerable extent, no one of them was universally true. Linneus' distinction was that,—Minerals grow ; Plants grow and live ; Animals grow, live, feel and move. This is generally true ; and yet some animals are rooted as firmly as plants, and some marine plants have the power of locomotion, and other plants give as much evidence of feeling as many animals. Again—Plants exhale oxygen and inhale carbonic acid ; while animals inhale oxygen, and exhale carbonic acid ; generally true, but not universally so. Again—Plants are composed of carbon and hydrogen—two elements ; animals of carbon, hydrogen, oxygen and nitrogen—four elements ; true also, with regard to most plants and animals, but not to all. Once more—Plants have no stomachs, but animals have stomachs, in which their food is digested and prepared for their nourishment ; this, again, is generally true, still, there are exceptions.

But I will not here dwell upon the subject. The lecture was, on the whole, a very interesting and instructive one, and his illustrations presented many new views to my mind. By tracing various plants and animals through their different stages of development, from the incipient embryo, up to the perfect individual, he illustrated the various "interlockings" of the lower orders of the two kingdoms, and thus showed the extreme difficulty of drawing any definite general line of demarkation between them. The frog, the aphid and the medusa, were examples of animals, whose developments were

traced. In case of the aphids, and medusa, and some others, he showed that they produced animals unlike themselves, and that animals so produced, produced animals unlike themselves, and so on, through a considerable circuit, till at length the original form was reproduced. This process, he proposes to call *Metagenesis*, in distinction from *Metamorphosis*, in which, change of form arises chiefly from casting off exterior coverings.

As the Association has determined to spend to-morrow in scientific excursions, in different directions, I concluded to join the party, which is to proceed down the Orwell and along the sea-coast, for the purpose of looking at the Red and Coralline Crag, and London Clay formations, and, for that purpose, I have taken a ticket, for which I paid 5s.

JULY 5. *Saturday*.—Having taken a ticket for the excursion down the Orwell, as mentioned yesterday, I went down to the steam-boat landing soon after breakfast, and at 9 A. M., our party, consisting of about 150, were closely packed on the deck of the little steamer, the *River Queen*, and the paddles were put in motion. This steamer is a small narrow boat, of, perhaps, half the tonnage of the old *Winooski*, on Lake Champlain. We were, consequently, all very near neighbors. The tide was out, and the water confined to the channel of the river, which is very narrow and very crooked, and hence, its navigation must require much care and experience, when the tide is in and the banks concealed, on account of the difficulty of keeping the channel. The river now appears no wider than our *Winooski*, below the lower falls. When the tide is in, it is, generally, half a mile, or more, wide. More than half the passen-

gers were obliged to stand, there being no places for them to sit down, and they stood so thick that it was almost impossible to get from one part of the deck to another. As we proceeded down the Orwell, I saw that Sun-fishes, or Medusa, were very numerous and very beautiful. Sometimes, three or four could be seen moving gracefully through the water, by their contractions and expansions. Herons, ducks, and various kinds of water-fowls, were quite numerous along the flats, which were left bare by the ebbing of the tide, which has here a sweep of rise and fall, as I am told, of sixteen feet. On our way down the river, Prof. Phillips mounted the rostrum, (that is, the bulkhead over the gang-way,) and gave us a very interesting lecture, on the geological character of the localities we were about visiting, and to me it was very opportune, as it enabled me to learn, and enjoy, much more of the things I was about to see, than I otherwise could have done. After dwelling for some time upon the general Geology of this part of England, and giving some account of the three principal deposits, lying above the chalk formation, viz: the London clay, the Coralline crag and the Red crag, he said he would suspend his remarks, till he came in sight of the crag and clay, along the coast. At Harwich, which is an ancient town of considerable size, lying at the mouth of the Orwell, twelve miles from Ipswich, several of the passengers landed, for the purpose of accepting an invitation, which had been extended to the members of the Association, from that neighborhood.

Leaving Harwich, we proceeded out to sea, and along the coast, toward the north. The shore gradually became more elevated as we advanced, and at Felixstow,

consisted of a narrow gravelly beach, back of which, the clay and crag rose precipitously, 30 or 40 feet. There having been some deep cutting made recently, in this neighborhood, some 30, or 35, of the party landed for the purpose of examining the geological structure more minutely. I felt quite desirous of being one of the number, but, as it would be necessary to walk some four or five miles, or more, in order to be taken on board, on the return of the boat, and, as I felt too unwell to think it prudent to undertake it, I continued on board. The crag, as it showed itself in the bank, along the shore, appeared, generally, about 12 or 15 feet thick, and the London clay, some part of the way, showed an equal thickness below. Between Felixstow and Bawdsey-Ferry, at the mouth of the Deben, are the remains, of a Roman burial ground and some old Roman works which have been exposed by the inroads of the ocean. The ocean, all along this coast, is wearing it away; and it is this action of the ocean, which causes the abruptness of the shore, and exposes the edges of the crag and clay formations. The materials of the wear, are all drifted southward, and are found to be rapidly accumulating, in several places. Quite extensive tracts have been worn away, along this coast, within the historic period, and places, which were formerly accessable with large ships, can now be approached only by light craft, on account of the shallowness of the water.

At Bawdsey-Ferry, some more of our party went on shore, to remain till our return, but a majority still remained on board, and proceeded up the river to Rams-holt, where the boat was moored. After partaking of the excellent refreshments, which had been provided for



the occasion, the whole party went on shore, and spent about an hour in clambering among the Crag-cliffs, examining the arrangement of the different deposits, and collecting specimens. The specimens found in the crag, are very interesting, consisting of a great variety of shells of molluscs, fragments of the bones of whales and land quadrupeds, the teeth of sharks, echinoderms and corals of different kinds. There are, also, layers of materials, in some places quite abundant, which consist of rounded, cylindrical, ovoid masses, varying from one to five or six inches in length, and from half an inch to two inches in diameter. These little masses are found, on analysis to consist of from 50 to 75 per cent. of phosphate of lime; and, the phosphate of lime being a great fertilizer of soils, these are sought after with great avidity, to be applied to lands, as a manure; and I was told that, not less than a thousand tons are collected, annually, in this neighborhood. These little masses have acquired the name of *Coprolites*, and are regarded as a kind of native *Guano*; but the name of Coprolite, as a general name for them, is thought, by many naturalists, to be here misapplied. Some few of the masses have the *spiral* structure, which is characteristic of the Coprolite, and may be such, but, for myself, I must say that, I think the proportion of true Coprolites among them, is quite small. I am disposed to regard them simply as concretions, which have been aggregated, in the same manner, as we see them formed in the clay-beds along the shores of Lake Champlain. That the phosphate of lime, which forms the principal part of these concretions, has been derived from the disintegration of animal bones, is very probable; but that all these rounded masses, or even a

large part of them, have passed through the stomachs, and received their form in the intestines of animated beings, is, certainly, not generally indicated in their structure. Indeed, the arrangement of their materials, indicates, in many cases, a very different origin. I broke and examined the structure of a great number of them, and, in very many cases, I found these cylindrical, ovoid masses, to be composed of concentric layers, formed around a capillary cavity, extending in the direction of the longest diameter of the mass, precisely in the same manner, as we see them arranged in the concretions of our own brown clay. I mentioned my view of their concretionary character, to Prof. Phillips, and found that he was inclined to the same opinion.

On our way back from Ramsholt, we had several very interesting lectures, in relation to the objects which we had seen, and which lie along the the line of our excursion. The chief speakers were, Professors Phillips, Forbes, Sedgwick and Owen. Prof. Phillips is the most fluent speaker of the four, but they all spoke well, and to the purpose. Though speaking, for the most part, of realities and facts, they did not fail, occasionally, to give zest to their speeches, by the intermingling of a little humor and anecdote, and occasionally to draw a fancy sketch, which would produce a universal burst of applause. Prof. Sedgwick drew one of these, which I would like to have been phonographer enough to have taken down in short hand. It was in relation to the origin and character of the green sand, London clay, and crag formations; but I shall make no attempt to repeat it. I will, however, say this much;—from the character of

the fossil bones, and other remains, he inferred that, at one period, turtles were exceedingly abundant; and that, if turtle abounded, there must be large cities, in which aldermen abounded, to eat them. He also attributed the color of the green sand formation, to the green coloring matter of the green fat of the turtles; and he might have, also, inferred that, the so-called caprolites, were formed from the phosphate of lime, derived from the bones and shells of the turtles. Prof. Owen stated, that one of the shells of Molluscs, found in the red crag, had given name to a whole race of men—the Hottentots, of South Africa, Hottentot being the Dutch name of a shell, and signifying that it is *left-handed*. But, whether the Hottentots are generally left-handed, or not, he did not inform us. He, however, said that, while the fossil shells of this species were, generally, heterostroph, their descendants had somehow or other righted, or reversed themselves, and were now, nearly all, right-handed. He further stated, that from the fossil bones and teeth, obtained from the crag, he had been able to make out seventeen distinct species of quadrupeds. Among these, were a rhinoceros and several kinds of deer. Shark's teeth abound in the crag, some of which, judging from the proportion which the teeth of the living species of sharks bear to the animals, must have been about 60 feet in length. Prof. Forbes, also, made some very interesting remarks, respecting the crag and clay formations.

Although the ships employed about Harwich are generally small, their number must be very great.

While on the ocean, in the neighborhood of Harwich, I counted 97 vessels, of various kinds, all of which were in sight at the same time. A large part of the shipping, I was told, is employed in raising from the bottom of the shallow sea a deposit, which, when carried away and properly prepared, is used for cement, or water lime. We arrived at Ipswich, about 6 P. M., after a day, in which I have learned very much of things concerning which, I knew very little before—a day in which I have had nothing to mar my enjoyment, but the want of good health. My cough has been exceedingly troublesome, and I have suffered considerable from pain in my side and chest; and the occasional coughing up of a little blood, has not served to stimulate me to very great exertion, in climbing the crag banks, nor has it served to give much buoyancy to my spirits; still, I have enjoyed much, and learned some things, although I have, at the same time, suffered. Joy and pain, so far as concerned myself, have been very closely associated, during the day. Neither of them has, at any time, been very far off.

JULY 6. *Sunday*.—Attended Divine service, forenoon and afternoon, at the nearest parish church, and heard two excellent sermons from two different clergymen; but I have not learned the name of the church, or of either of the preachers. The forenoon's sermon was on Pilate's interrogative, "*What is truth?*" and that in the afternoon, on the 11th verse of the 3d chapter of the 2d Epistle of Peter—" *Seeing that all these things shall be dissolved,*" &c. Both the



discourses were very well written, and the emphasis and intonations of the speakers were good ; but there was no gesticulation, excepting a nod of the head. Neither of them raised his hand from the cushion, during the discourse. Both the preachers made very particular reference to the meeting of the British Association, now in session here ; and both discoursed very properly upon the relation and correspondence of the book of nature with the book of revelation—of the harmony of religion with true science.

JULY 7. *Monday*.—This morning, after breakfast, I proceeded to the reception-room, where I obtained a programme of the proceedings for the day ; and, judging from the titles of the papers to be read, that I should derive most benefit from attendance in the geological section, I proceeded to their room. Papers were read before this section, by Messrs. Owen, Bowerbank, Forbes, Lyell and Logan. Mr. Bowerbank's related to the fossils of the London clay and the crag, and he exhibited shark's teeth from those formations, and from existing species, and, also, drawings, for the purpose of comparison. He stated, that the largest living species was found in the East Indies, and that it sometimes obtained the enormous length of 37 feet. He exhibited some of the teeth of this large shark, with a drawing of its head and jaws, and also some of the fossil teeth found in the crag, with an ideal outline of a corresponding head, and showed that, if we may judge of the size of the ancient shark, from the size of its teeth, as compared with the living species, we must conclude that it was about 65 feet long.

The name, given to this fossil species, is *Carcaris megaladon*. We can conceive, that it would hardly be necessary for such a shark, to make two bites in devouring a man. The papers of Prof. Forbes and Sir Charles Lyell, both related to the fossils of the crag. Mr. Logan's paper related to the geology of Canada, and particularly to the copper-bearing rocks of Lake Huron. He exhibited before the section, a slab of sandstone, on which the foot-prints of a reptile, probably a tortoise, were distinctly impressed, and, also, a cast of another slab, some 7 or 8 feet long, on which similar tracks were shown, throughout its whole length. From its position, in reference to the well-known rocks in the neighborhood, Mr. Logan regards this sandstone, in which the tracks are found, as the Potsdam sandstone of the New York geologists, which is at the bottom of the Silurian series, or the oldest known fossiliferous rock. If this be so, it proves that vertebrated animals existed at the very earliest period, in which we find any proof of the existence of either animal or vegetable life. In the evening, Prof. Airy, the Astronomer Royal, gave, at the Corn Exchange, a very interesting lecture upon the total eclipse of the sun, which is to occur on the 28th inst. He illustrated the subject of solar eclipses very fully, by apparatus and diagrams, and gave a particular account of some interesting phenomena, exhibited to different observers, of the eclipse of 1842. His lecture occupied 1½ hour.

JULY 8. *Tuesday*.—After breakfast, went to the

reception-room, and not finding on the programme any papers announced in which I felt very deeply interested, and learning that this was the last day of the session of the Association, I concluded to return to London. I accordingly took the train, which left Ipswich at half-past 9 A. M., and arrived in London about 1 P. M. The country between Ipswich and London is very delightful, being slightly undulating, and well cultivated. The soil, I should think, was not naturally very strong, or rich: it appears, however, to be made, by artificial means, quite productive. The subsoil seems, in most places, to consist of flint pebbles.

The city of Ipswich has quite an ancient appearance, and contains a considerable number of old churches. Excepting at the corners, which are of brick, or hammered stone, these churches are, for the most part, built of nodules of flint, which have been derived from the chalk formation, and which give the buildings a very singular appearance. The nodules are laid in mortar, which is almost as hard as stone. The outsides of the walls are generally composed of halves of spherical nodules, which have been broken in the middle into two parts. The flat surface of the section is placed outward, forming the surface of the wall of the building; and, as these flints are of all shades, from perfect black to white, the exterior of the churches appear to be covered with circles of different colors, and generally about three or four inches in diameter. In some cases, regard is had to the ar-

rangement of the different shades of color ; but, generally, they are placed promiscuously, without any regard to order. Ipswich appears to be a place of considerable business, but the streets here are very still and quiet compared with London. There is considerable shipping on the Orwell, but the craft is mostly small. There is not sufficient depth of water for large vessels, excepting at high tide, and then only along a narrow channel. There are very few elegant buildings in Ipswich, but the city has a population of about 35,000.

On my arrival in London, I was very much gratified in finding letters from my wife and children, dated about three weeks after my departure from Burlington ; but I was sorry to learn that, like myself, my dear wife was suffering from an inflammation of the lungs, and hope that, ere this, she has recovered from it. In the course of the afternoon, I called upon Mr. Markham, to whom I had brought letters, from Mr. Whitby, of Burlington ; and he aided me in procuring lodgings, where I now am, and where, I think, I shall get along quite as comfortably, and at much less expense, than at any of the large hotels. And, besides the saving of expense, which with me is not a trifling consideration, I expect to derive several advantages from my present location. I shall be where the streets are broad and clean, and, comparatively, out of the noise, and smoke, and dust • which last, I think of considerable importance, in the present condition of my lungs. And, besides, I shall be as near the Crys-



tal Palace, as I was at Morley's ; not more than half so far from the Zoological Gardens, and in the immediate vicinity of the British Museum. My number is 23, Euston Place.

JULY 9. *Wednesday*.—My new lodgings, though not furnished in the most elegant or sumptuous manner, I find to be quiet and comfortable, and, as to other things, it matters little, as I can hardly expect either the Queen, or Prince Albert, will call upon me here. This morning, took over the bones of my fossil whale, to the Museum of Practical Geology, and, with Prof. Forbes, compared them with the vertebræ of a cetacean, obtained by Mr. Logan, from the Laurentian clay, at Montreal. There can be little doubt that his and mine belong to the same species. His fossils consist only of vertebræ, and, between them, and the corresponding vertebræ in my specimen, no important difference could be discovered. I then, by advice of Prof. Forbes, took the fossils over to the Museum of the College of Surgeons, at Lincoln's Inn-Fields, in order to submit them to Prof. Owen ; but, as Mr. O. was out, I left the bones, and intend calling again, to-morrow. From this interesting Museum of Comparative Anatomy, after spending some little time in looking about, I went to the National Gallery of Painting and Sculpture, on Trafalgar Square. I was much impressed by some of the pieces of Raffæelle, Guido and Rubens. The works of these three artists are generally excellent, but they are quite unlike. Rubens' pieces are distinguished for their bright colors, and particularly for the use of red, which might lead one to suppose that the name, Rubens, was derived from that circumstance. The picture, which produced the deep-

est impression on me, was Raffaele's "Murder of the Innocents." It seemed as if the whole scene was passing before my eyes—as if I could see the agonizing struggles, and hear the shrieks of the despairing mothers, as they clung, with desperate energy, to their babes—as if I could see the convulsions and distortions, and hear the screams of the frightened and suffering and bleeding children, as the fierce and cruel executioners of Herod were tearing the little innocents from the arms of their mothers, and murdering them before their eyes. There seems to be reality and truth in the whole scene, and, in spite of me, it drew tears from my eyes. There are portions of a picture, by Rubens, called "Peace and War," which are exceedingly life-like and touching. Among the Statuary and modern Paintings, there are many of great skill and excellence. But I profess to be no connoisseur in the fine arts, and shall not attempt to particularize beauties or defects.

This evening, the City Corporation give a grand ball to the Queen. Only the nobility and most distinguished personages, are invited, and yet, my friend Stevens had an invitation, and is there. He associates, here, with the best classes and highest ranks of society. He probably received his invitation, in this case, in consequence of being one of the Jurors, for awarding prizes and medals, at the Great Exhibition. The ball takes place at Guildhall, which is in, what is called, the city, in distinction from the town or metropolis; and as the Queen resides in Buckingham Palace, in St. James' Park, Trafalgar Square is between the two, and being there a little after 8 o'clock, and, observing the streets to be densely lined with spectators, on both sides,

watching the opportunity to see the Queen pass, I mingled with them, thinking I might be allowed the privilege of a cat, which may look upon a King. After waiting till nearly 9, the retinue passed along, in the midst of which was a carriage more splendidly gilded than the rest, carrying the Queen and royal consort. I saw just enough to enable me to say, that I have seen Her Majesty, and that is all. On account of the darkness and obscurity in which she was involved, in her carriage, at this time in the evening, I could obtain no better knowledge of her countenance, or features, than I should obtain of a Turkish beauty, whom I should meet in the streets of Constantinople, and who did raise her veil. But I saw as much as thousands of others did, who went home, exulting that they had seen the Queen. The card which Mr. Stevens received, was a very splendid thing; and it was accompanied by full directions in regard to the dress, which was to be worn. Every gentleman must wear a white cravat, and no lady could be admitted in a black gown. The gates were to be closed as soon as Her Majesty arrived, and none of the company could leave till she retired.

JULY 10. *Thursday*.—Called at Morley's in the morning, where I met my friend, J. Howard, Esq., of the Irving House, New York, and who informed me that he expected to go home in the Atlantic, which was to leave Liverpool on the 23d inst. Also, saw my friend, Stevens, who gave me some account of the last night's ball. From Morley's I went to the Museum of the College of Surgeons, where, with Prof. Owen, I compared my fossil bones with those of the arctic living species, the *Beluga leucas*. There was not a perfect agreement, but

the differences were not sufficient, in the opinion of Prof. Owen, to justify the formation, from it, of a new species. He was not willing to pronounce a positive opinion, but I have little doubt that he regarded it as identical in species, with the living *Beluga leucas*. It appeared to me to agree as nearly with almost any one of the heads of the living species, above named, as they agreed among themselves. The number of teeth in them is not uniform. On my way to my room, I was caught in a shower, and not having my umbrella, got considerably wet. Between 3 and 4 we had another smart thunder shower.

JULY 11. *Friday*.—Called at Morley's this morning, and found there a note from Mrs. Atkinson, inviting me to take coffee with them at 9 o'clock, P. M., but on examination found it to be dated July 9th—two days ago. From Morley's, I passed down by Westminster Abbey, and took a stroll around Millbank Penitentiary, and a look at its exterior; and, it may be thought, I was very fortunate, that I did not get in, to examine its interior. I learn from the books that, this is the largest penal establishment in England, and its exterior shows it to be of vast extent. It consists of six pentagonal buildings, surrounded by a lofty octagonal brick wall, inclosing an area of sixteen acres. Six acres of this space are occupied by the buildings and yards, and nine acres are laid out as a garden. The Penitentiary contains 1200 separate cells, lofty and well aired, which are 12 feet long and 6 wide. The corridors, in which the cells are situated, are more than three miles in length. The whole cost was £500,000.

From the Penitentiary, I proceeded, by way of West-



minster bridge, to Lambeth Palace, for the purpose of delivering the letter kindly furnished me by the Rt. Rev. Bishop Hopkins, to the Archbishop of Canterbury. I found the Archbishop at home, and alone in his study, and had a very agreeable interview with His Grace. He was very plain in his appearance and dress, and in conversation, very free and affable. He seemed gratified with the line from Bishop Hopkins, and to remember with pleasure, his former acquaintance and interviews with him. Lambeth Palace and gardens occupy, I understand, about ten acres, which are surrounded, excepting on a portion of the side next the river, by a massive brick wall, about 15 feet high. There is nothing imposing or beautiful in the exterior, but viewed within the yard, some of the buildings make a very fine appearance. The old Chapel here, was erected by Archbishop Boniface, in the 13th century, and is the oldest part of the structure. A new Gothic wing was added, only a few years since, by the late Dr. Howley, and there appears, at the present time, to be a beautiful little Gothic chapel in process of erection. There is said to be here, a large and excellent library, and many fine portraits of Archbishops and others; but as I spent but little time in looking about, I will attempt no further descriptions. From Lambeth, I returned to my lodgings, and rested my weary limbs, by writing to my wife and children, in order that my letter may go out by tomorrow's Mail-Steamer. After finishing my letter, and depositing it in the Post-Office, I called at Mr. Atkinson's, where I remained and took coffee, and where I met several Americans. The coffee was prepared upon the table, by means of a very ingenious apparatus, heat-

ed by a spirit-lamp. Mr. Atkinson's residence, at 37, Gordon Square, I find to be very near my own lodgings, in Euston Place.

JULY 12. *Saturday*.—Have spent most of this day in the Zoological Gardens, and have seen very much more than I can either describe or remember. They are situated in Regent's Park, and were opened to the public in 1828. They occupy some ten or a dozen acres of the north end of the Park, and are very tastefully laid out; and the localities, and circumstances, and arrangements, are all peculiarly adapted to the *habitat* of the various animals. There is a kind of creek for the water-fowls, with its margin lined with bushes, and weeds, and grass. Basins, or ponds of water, for the white bears, the seals, the hippopotamus, the otters, &c., and paddocks, and kennels, and aviaries, and apartments, which can be suitably warmed for the various animals of tropical climates. There are, in the whole, no less than sixty-six houses and general divisions, appropriated to the different kinds of animals.

The individuals, in which I was most interested, were the female elephant and calf, the giraffes, and the hippopotamus. What attracted my particular attention, in relation to the elephants, was the nursing of the young one. The *mammæ* and teats being situated between the fore legs, the calf would, when it wished to suck, advance along the side of its mother, feeling with its little trunk under her belly, till it found one of the two nipples. Then, keeping the end of the trunk upon the nipple, it advanced its head for-

ward till it could take the nipple in its mouth. As it proceeded in sucking, it kept the end of its trunk moving about and pressing upon the *mammæ*, precisely as the little infant, while nursing, moves and presses one of its hands on the breast of its mother. The young elephant was about the size of the calf of the cow, when a year old, but I was so stupid that I did not inquire its age.

There are four of the giraffes. They were, some of them, eating hay, or provender, out of their racks, which were situated about twelve feet from the floor. The head of the largest, when it stood in its upright natural position, I should judge to be sixteen feet above the floor. Their eyes bespoke a mild disposition, like that of the camel and the sheep.

But, the object of most interest to me, and the one which I found to be the great object of attraction, to a majority of those who visited the Gardens, was the hippopotamus, which is the first animal of the kind ever exhibited alive in England. I found it confined in a yard—perhaps four rods square—with a pond, or basin, of water in the centre, about two rods across, and the inclosure was surrounded by two or three hundred spectators. The hippopotamus was lying on the platform by the side of the pond, with its eyes closed, and apparently asleep. The Nubian keeper soon after roused him from his slumbers, and drove him into the water. He waded as long as he could touch bottom, and then swam lazily across, and crawled partly out on the other side; but he was driven back

again into the water, and, after remaining there some little time, nearly motionless, he was permitted to come out on the side where he went in. In its general form, it had some resemblance to the hog, but its body is rounder, having the sides less flattened. Its total length, exclusive of the tail, was about seven feet; the height of the back, which was somewhat arched, three and a half feet; and the thickness of the body, about two and a half feet—having its vertical and lateral diameter nearly equal. The tail was about  $1\frac{1}{2}$  foot long, being of a conical form, having its large base attached to the body and tapering nearly to a point. The body was naked, the skin resembling somewhat, in appearance, that of a hog after the bristles have been removed, but of a dark, cream brown color. I noticed a few short stiff bristles, upon the lips, and these were all that I could see. Its ears were very small, and its dull, dark eyes, less than the medium size, in proportion to the size of the animal; as was, also, the top and back part of the head; but there was, in the anterior part of the head, a vast enlargement—a kind of spoon-bill aspect—being broader across near the end of the snout, than the width of the thickest part of the head. The anterior teeth are conical, a little hooking, about the size of a man's finger and nearly as long, and placed so far asunder that the teeth in one jaw interlocked with those in the other. There are no prominent canines, or tusks. The short, thick legs, terminate in a round clump foot, with four short thick toes, of nearly equal size. It is



a young male, not fully grown, but I did not learn its age.

I find it stated, that there were in the Zoological Gardens, on the first of January, 1850, 1361 living animals, of which 354 were mammals, 853 birds, and 154 reptiles. These gardens belong to the Zoological Society, and are open to the public on every day in the week, except Sunday. Admittance on Monday, 6*d.*; on other days, 1*s.*

Within the inclosure of the gardens, is Mr. Gould's collection of humming birds. They consist of several hundred well-prepared specimens, belonging to about one hundred different species, and for variety, brilliancy, and beauty of colors, scarcely any thing in the world can equal it. They are arranged upon plants and flowers, some perched and others on the wing, in light glazed cases, and these are arranged in a neat little building, erected on purpose for their reception.

JULY 13. *Sunday*.—Attended Divine service, to-day, at Westminster Abbey, but being misinformed with regard to the time of its commencement, I did not reach the Abbey till it was nearly half over. I found the building crammed full of people, in every part, and although I elbowed my way into their midst, I was not able to reach a position where I could hear, understandingly, either the service or the sermon. But, I succeeded in getting along so far in the crowd, that I could see the preacher, and see that he officiated in the surplice and scarf. Five-sixths of the con-

gregation were obliged to stand, during the whole service, for want of seats, and they were so thickly crowded that they filled the whole space entirely, when standing. As already remarked, I was not able to hear enough of the sermon to learn the subject of it, but the performances of the organ and choir could not be concealed, and it is sufficient proof that the music was exquisite, to state, that it produced an effect even upon me, as it reverberated among the clustered columns and through the long and lofty Gothic arched aisles. I could, on this occasion, only glance at the numerous tablets, and sculptures, and monuments, in this renowned old edifice, but hope soon to find time to survey them more minutely. Being somewhat fatigued by my walk to the Abbey and back, it being a mile and a half from my lodgings, and it being showery in the afternoon, I did not go out, but spent the remainder of the day in my room.

JULY 14. *Monday.*—Spent this day in that place, where parts of all the things in the world are collected together—called the *British Museum*. But, who is he, who will undertake a description of the British Museum? He must, indeed, be a verdant stripling or an imbecile dote. Why, a full description of this Museum, would form a cyclopedia of science, literature, and antiquities, far more complete, than was ever yet published. Saying nothing of the immense amount of natural productions, only think of 800,000 volumes of printed books, 65,000 volumes of manuscripts, several thousand pieces of sculpture, varying in weight from a few

ounces to several tons, and consisting of tablets, and statues, and sarcophagi, and obelisks, and colossal images, collected into this place, from the ruins of Abyssinia, and Nubia, and Egypt, and Assyria, and Greece, and Rome, and many of them bearing, in writing or hieroglyphics, important historical records of the remotest periods of antiquity.

The edifices, which constitute the British Museum, form a quadrangle, built around an open square, 238 feet by 317. The quadrangle of buildings measures about 600 feet in front and depth; and the front of the main building, which is towards Great Russell street, is very elegant and imposing. It has a colonade of 44 columns, which are of Portland stone, five feet in diameter and forty-five feet high. The grand entrance into the main building, is in the centre of this front, which is separated from the street by a spacious yard and a high iron fence. Appended to the two corners, and advancing nearly to the street, are two elegant buildings, for offices and officer's apartments.

I have spent my time to-day, among the antiquities, both of art and nature, and could do little else, as I passed along from room to room and gallery to gallery, but gaze and wonder. I first passed round among the Roman and Grecian sculptures, among the Elgin and Ninevah marbles, and through the Townley and Egyptian saloon, and thence ascended by the stairway to the second floor. I first passed through the Egyptian room above, and the rooms filled with Etruscan vases, and then spent the remainder of the day amongst the fossils and minerals. The fossils interested me more than any other class of objects. These antique medals of a

creation of mammals, anterior to the existing fauna, opened to me a new field of observation, and I spent considerable time in comparing the fossil teeth of the mastodon, the elephant, the megatherium, and many other large and distinct species; and I found, somewhat to my surprise, that the grinders of the greater part of them were tuberculated on the grinding surface, like those of the mastodon, and not lined and ridged with enamel, as is the case with the elephant. Among the minerals, I noticed many specimens of native gold, from various countries.

JULY 15. *Tuesday*.—Rested much better last night, than I had anticipated, after my hard day's work, yesterday, and have spent the whole of this day at the Crystal Palace. Went in a little after 10 A. M., and continued there, amidst a moving mass of humanity, almost as varied as the objects of the Exhibition, till 4 P. M. The building was densely crowded—so much so that, it was extremely difficult moving from place to place, and I learn, this evening, that the number of visitors to the Palace to-day, has exceeded the number on any previous day, since the opening of the Exhibition, being over 74,000. I have confined my attention to-day, to the north gallery, but have hardly glimpsed at one tenth it contains. I found my friend, Shattuck, at his post, beside his rail-way-car wheels, in the American department. At the room of the American agency here, there is a book, in which Americans, who arrive, record their names and residences, &c., and when here, some days ago, I entered my own name, and now find that, more than 200 have entered their names since; but I do not find any among them, with whom I am acquainted.



I procured refreshments at the Palace, and sat down several times, to rest me; but I found myself very much fatigued, when I reached my lodgings.

JULY 16. *Wednesday*.—Thinking it would be most prudent, to be getting off for the United States, as soon as the 1st of August, I started this morning, with my friend, Stevens, for the purpose of making inquiries, at the several Steamer Offices, in regard to my passage, being yet undecided in what way I should return. On the Thames, there are a great many swift little Steamers, which are constantly plying between all the important points along the river, and they are constantly filled with passengers, the fare being only one penny. We proceeded to the nearest landing station, which was at Charing-Cross Iron Bridge; which bridge, by the by, is a very interesting structure. The total weight of the chains, consisting of 2600 links, is 715 tons. It consists of three arches; the span of the centre one being  $676\frac{1}{2}$  ft., and those on each side, 333 feet, each. The height of the road-way in the centre, is 32 feet above high-water mark. Cost £106,000. It was designed for foot passengers only, and was opened to the public, May 1, 1845. From the north pier of this bridge, there is a stair-way leading down to the steamboat landing which we found crowded with people, awaiting their turn to get on board, or to make their way off from the boats, two or three of which were hauled up there. After waiting about ten minutes, we got on board, and were soon gliding down the Thames. The tide was out, and all the water of the mighty Thames, was confined to a narrow channel, but little exceeding in width, our own little Winooski. The bed of the river, on each side of

the channel, appeared like a vast quagmire, in which were lying vessels of various sizes, and in all positions—some standing upright on their keels, some on their sides, some on their bows, and some on their sterns. In sailing down the river, when just below Waterloo bridge, we had, from the boat, a very fine view of the Somerset House, which is regarded as one of the finest buildings in London. It is built in the form of a quadrangle, surrounding an open court, being 800 feet in length, and 500 in depth, lying between the river and the Strand. The front next the river is strikingly grand and beautiful. The Royal Society, the Antiquarian Society, the Geological Society, the Astronomical Society, and the School of Design, have apartments in this building, where they hold their meetings.

In going from Charing-Cross Bridge, to London Bridge, a distance of about one mile, we passed under three massive bridges, which span the Thames, viz: Waterloo, Black Frairs', and Southwark. The two former are built of stone, and the latter of iron. Waterloo bridge, pronounced by Canova, to be the first structure of the kind in the world, and by M. Dauphin, the celebrated French engineer, to be "a colossal monument, worthy of Sesostris and the Cæsars," was opened in June, 1817. It is really a noble structure. The number of persons passing and repassing in the little steamers on the Thames, is truly wonderful. At each pier, the boats are arriving and departing as often, on an average, as once every ten minutes, through the day; and they are all the time crowded with passengers, and move from place to place with great celerity.

From London Bridge, I went to the offices of the sev-

eral ocean Steamers, and concluded to take passage home in the Humboldt, which is to leave on the 30th instant.

I returned on foot, and on my way stopped to take my first look at the interior of St. Paul's Cathedral. When I entered the great body of the Church, I stopped and looked about me with as much astonishment, presume, as President Austin once manifested, when he came in sight of a certain conflagration, which took place in the rear of the Vermont University. Our emotions must, however, have been quite different, as well as our exclamations. He held up both of his hands, and vociferated—“*ridiculous ! ridiculous !* !”—while I was forced to exclaim—“*magnificent ! magnificent !* !” For magnificence and grandeur, I think St. Paul's exceeds any public edifice I have seen. The building, of which it most reminds me, in its architecture and general form, is the Pantheon, in Paris, where Foucault first demonstrated the earth's rotation, as already mentioned ; but in magnitude, the Pantheon is a mere pigmy, compared with St. Paul's. The general dimensions of St. Paul's Cathedral are, 510 feet in length, 290 in width, and 400 in height ; and it is a remarkable fact, that this immense edifice, second only to St. Peter's in Rome, was begun and completed in the short space of 35 years, by one architect, Sir Christopher Wren, one principal mason, Mr. Thomas Strong, and under one Bishop of London, Dr. Henry Compton, while St. Peter's was 155 years in building, under 19 Popes, by 12 successive architects. I spent about an hour in the Cathedral, looking at the monuments erected to the memory of the heroes of England, and in admiring the vastness of the

edifice which enshrined them, and then finished my day's work by walking two miles to my lodgings.

JULY 17. *Thursday*. Spent this day at the Great Exhibition in the Crystal Palace; but it is of no use to attempt to write down particulars of what I saw. It would be as easy to give a botanical description of the productions of one of our western prairies, from data collected during a ride through it on horseback, as it would for an occasional visitor to give an account of the articles in the Exhibition. I may, however, mention one thing which I stopped and gazed at with some little astonishment. Upon a massive iron safe, standing in the nave of the building, a little east of the transept, surrounded by a strong railing, and underneath a grated coronal dome, through which intrusive hands could not enter, was seen a little obovoid nodule, less in size than half an ordinary apple, and which might easily be mistaken for a lump of flint glass, carelessly dropped in a glass-house—and this is neither more nor less than the world-famed diamond, "*Koh-i-Noor*," of Runjeet Singh, valued at £2,000,000 sterling, (nearly \$10,000,000!!!) a sum which would build fourteen Crystal Palaces, or, would build a handsome church in every town in New England.

JULY 18. *Friday*.—Spent the forenoon in an excursion to the lower part of the city, and at half-past one, P. M., went to the Waterloo Rail-Way station, and took a passage in the cars to Wimbledon Common, for the purpose of delivering letters to Mrs. Maryatt. I found her carriage at the door, and that she was about leaving to fulfil an engagement abroad. She remained to read her letters, and gave me a pressing invitation to remain



and dine with her. I found her to be an interesting and venerable old lady, of more than 80 years, and yet, apparently quite healthy and active. The village of Wimbledon is neat, but small. It is entered on the south-east side by a gate, and opens to the north-west into a beautiful and extensive common. The delightful residence of Mrs. Maryatt, is situated on the side of the little village, adjacent to the common, and is surrounded by beautiful gardens and groves. I spent about half an hour with Miss Maryatt, after her mother's departure, and returned, by the 4 o'clock train, to London.

JULY 19. *Saturday*.—Rained most of the day—did not go to the Crystal Palace, as I had intended, but spent considerable time in Westminster Abbey. The more I see of this venerable building, the more I admire it. The interior of St. Paul's appears more vast, as does also the interior of Notre Dame, in Paris; but there is something about the old-clustered columns, and the lofty-pointed arches of the Abbey, which produces, in my mind, emotions quite different from either of those. It seems, as it were, the avenue from earth to heaven.

Most of the time spent to-day, in the Abbey, was devoted to an inspection of the chapels which surrounded the choir, and in that magnificent addition to the Abbey, known as Henry VII. Chapel. This last chapel is a place of exceeding great interest, not only on account of its architectural structure and ornaments, but of the trophies and monuments it contains. It is entered from the Abbey by a flight of several steps. It is 115 feet long, 80 wide, and the top of its

turrets 102 feet high. Westminster Abbey, exclusive of Henry VII Chapel, is, in length, 416 feet ; width at the transept, 203 feet ; height of the west towers, 225 feet.

JULY 20. *Sunday*.—Had calculated to attend the services in St. Paul's Cathedral to-day, but the morning being showery, and St. Paul's more than two miles from my lodgings, I concluded to attend the parish church on the east side of Euston Square, called St. Pancreas' Church. This is a large and elegant church, built of brick, and faced with Portland stone. It is modelled in imitation of the Athenian temple of Erechtheus. Its length is 117 feet, width 60, and the height of its steeple 168 feet. It has galleries on three sides, supported by columns, copied from the Elgin marbles. The church has a commanding appearance, with a beautiful portico, and is very neat and elegant within. I found the church well filled, by a respectable looking and very attentive audience. The service was read by a young clergyman ; at the close of which, he published the bans of marriage between about one hundred couple. Before he got through his formidable list, I began to think that some Millerite had been laboring successfully in the parish, or that some new comet was approaching, which, it was expected, would burn up the world.

The sermon was preached by the rector of the church, the Rev. Thomas Dale, and he delivered a most excellent discourse, and did it too in a very impressive manner. I attended the afternoon services in the

same church, and the same persons officiated as in the forenoon. Mr. D.'s text, in the forenoon, was founded on a portion of the third chapter of the 1st Epistle to the Corinthians, from the 11th to the 15th verses; and in the afternoon, upon the last clause of the 47th verse of the 2d chapter of the Acts; and, according to my views, he gave two well-written, sound and scriptural discourses, in which it was shown that Christ was the only foundation—that on this foundation the true church of God was built, and that the Church of England was undoubtedly a part of the true church of God. If such sermons were generally preached in the pulpits of the establishment, and the clergymen illustrated their discourses by consistent examples, they would need, I think, to have little fear of Romanism on the one hand, or dissent on the other. *Ecclesiastical Titles Bills* might safely be dispensed with. I passed the evening at Mr. Atkinson's, where I met several Americans.

JULY 21. *Monday*.—Have had a very hard day's work, but, withal, a very interesting one. Went first to Temple Bar, thence to Temple Church, thence to the Mint, and thence to the famous Tower of London, where I spent the greater part of the day. Temple Bar is the only boundary, now remaining visible, of the old city of London. It is an arched gateway, crossing Fleet street, and formerly separated London from Westminster. Temple Gardens, Temple Church, and many things about this location of the Knights Templars, are very interesting, particularly the church,

near which are buried the mortal remains of Oliver Goldsmith, while his monument, with Dr. Johnson's inscription, is in Poet's Corner, Westminster Abbey.

The Tower, which engaged my chief attention, is, in every respect, an interesting and wonderful place. Its exterior consists of a strong wall, provided with angular bastions, and surrounded by a broad ditch. The interior consists of a parade ground and numerous buildings, of which that called the White Tower is the most conspicuous. All parts are freely accessible to the public, excepting the Armory and the Jewel House. For admission to each of these, a fee of 6*d.* is required; and, for that, the visitor has the benefit of a guide, who names and explains the several objects, in passing along. The first long hall of the Armory, is filled with figures of ancient kings and knights, and noblemen, on horseback, clad, in many cases, in the identical armor which the persons wore, while living. In this and the various other departments, are preserved the warlike implements, of offence and defence, of English history. Here is preserved the axe, with which state criminals were beheaded; and I was shown the block, said to be the identical one, on which the head of Anne Boleyn was chopped off. I passed through the room in which Sir Walter Raleigh was incarcerated for twelve years, and went into the damp, windowless cell, which was his sleeping room.

In the Jewel House, which is situated to the north-eastward of the Armory, is a room called the Rega-



lia, in which are deposited the crown jewels, from the reign of Henry IV. They consist of founts, tankards, goblets, &c. of pure gold, crowns of the English sovereigns, and a great variety of precious things. Among the crowns, is that worn by the present Queen, Victoria, valued at *one million sterling*. The whole collection is valued at several millions; and while looking at it, I could not avoid thinking how much more good might be effected by those millions, if expended in relieving the sufferings and elevating the character of the lower classes of the community, instead of standing here to be gazed at. Imitations, in wood, with the exterior well gilded, would answer the same purpose here, if the deception were not detected; and there would be little chance for detection, by visitors, since they are not permitted to come within eight feet of the articles. The simple interest of the estimated value of the regalia, would amount to nearly a million of dollars annually, and would furnish the liberal salary of £200 sterling per annum to one thousand Christian missionaries. It looks, to me, rather anti-utilitarian to lock up so much wealth for mere ostentation.

JULY 22. *Tuesday*.—Having obtained my ticket yesterday, entitling me to a seat in the Peace Congress, as delegate from Vermont, I proceeded, this morning, to Exeter Hall, the place of meeting, where I arrived about half-past 10. I found a large number of delegates and spectators already assembled; and at 11, the time of organizing the meeting, the immense hall appeared to be entirely filled. The congress was called to order by Mr. Richards, one of the secretaries, and Sir David Brewster was elected president; who, on ta-

king the chair, delivered a very beautifully written and appropriate inaugural address.

Mr. Richards having read the names of the foreign delegates in attendance, remarked that he would not take up the time of the Congress in reading over the names of the British delegates, since they amounted to more than a thousand. The resolutions to be brought before the Congress, were prepared by the standing committee, and published in a programme of the proceedings; but before their discussion was entered upon, a short time was devoted to silent prayer, for the Divine blessing upon their labors.

Two resolutions were very amply discussed during this day's session: the first in relation to the influence of the pulpit, the school and the press, in the diffusion of peace principles; and the second, upon the settlement of national disputes, by arbitration. The first resolution was introduced by the Rev. J. A. James, and supported by a very able speech. He was followed by the Rev. Mr. Brock, Rev. Dr. Aspinall, Rev. A. Cocquerel, Jr., Prof. Saler, a Spaniard, and M. J. Delbruck, Editor of a Journal of Education, in Paris. The second resolution was introduced and ably supported by M. Visschers, of Brussels. He was followed by the Rev. Dr. Beckwith, Secretary of the American Peace Society, and the Rev. J. Burnet. Mr. Beckwith's speech was highly creditable to himself, and to the friends of Peace in America. Mr. Burnet's was filled with humor, and well calculated to secure the interest of the audience, to the close of the five hours sitting. He told them, among other things that, if war was wisdom, there must be, in that hall, an immense gathering of fools; that the peace

of the world was not to be kept by their Wellingtons, but by their Brewsters. These resolutions were supported by a considerable display of oratory, and were adopted unanimously.

JULY 23. *Wednesday*.—Have spent all this day in attendance upon the Peace Congress. The weather has been dark and foggy, with some rain; but notwithstanding this, Exeter Hall has been filled all day, to its utmost capacity. The air has been hot and oppressive; but the patient and quiet endurance of the audience, for five long hours, has showed clearly that the war spirit was not rampant there, but that, on the contrary, the advocates of peace could illustrate their principles by their examples.

Three resolutions have been discussed to-day. The first in relation to a mutual and general reduction of national armaments; second, the non-interference of one nation in the internal affairs of another; and third, the wrongs perpetrated by civilized nations upon uncivilized tribes. The first of these resolutions was supported by Mr. Cobden, Member of Parliament, in one of the ablest speeches I have yet heard. He was followed by M. de Pompery, of Paris, and by Mr. Ewart and Mr. Macgregor, two other Members of Parliament. The second resolution was supported by Mr. Vincent, Dr. Beaumont, and M. Garnier, the French Secretary. The third resolution was moved by Mr. Burnet, and was supported by him, and by Rev. F. Crowe, of Guatemala, the Rev. H. Garnett, and Mr. Girardin, of *La Presse*. M. Girardin said he was not a soldier, but a deserter, having deserted from the National Assembly of France, that he might be present in this Congress, where he was delighted to find himself.

JULY 24. *Thursday*.—Having learned that Dr. John C. Warren, of Boston, had arrived in London, and was stopping at the Brunswick Hotel, on Hanover Square. I called on him for a few moments, and also upon my friend, Mr. Yarrell, on my way to Exeter Hall. Mr. Yarrell was so kind as to present me a copy of his beautifully illustrated work, on British Fishes, in two octavo volumes.

When I reached Exeter Hall, the business of the Congress had already commenced. Fifteen working-men, from Paris, had been introduced, and addresses were made by C. Hindley, M. P., by Pierre Vinsard, one of the working-men, and Dr. Kreutznach, of Frankfort-on-the-Maine. The first resolution of the day, which related to the immorality, and other evils of loans for warlike purposes, was introduced and well supported by Mr. Charles Gilpin, of London, and was further discussed by Mr. Miall, Editor of the *Nonconformist*, Mr. S. Gurney, Mr. Cobden, Mr. Buckingham and M. Avigdon, banker of Nice. The preceeding resolution being carried, M. de Cermenin, of Paris, moved the next resolution, which recommended that, the friends of Peace should support, by their votes, in all Constitutional Countries, measures for the diminution of the number of men employed in, and the amount of money expended for, war purposes. He supported the resolution, in a speech of considerable length; but as he spoke in the French language, I was unable to judge of its merits. The speech of M. de Cermenin was followed by some pertinent remarks by the Rev. Dr. Massie, after which the resolution was unanimously adopted. Mr. Elihu Burritt then arose, and proposed a resolution, in rela-



tion to the formation of an authoritative code of international law. This resolution he supported, in a long and able speech, which was highly applauded. He was followed by M. Coignet, of Lyons, M. Peuh, M. Ecuvet, of the French National Assembly, and Dr. Scherzer, of Vienna. The next resolution, relating to the effect of the Great Industrial Exhibition of all nations, in promoting peace principles, was then read, and, without discussion, was passed by acclamation.

Then, after the transaction of a little business, the President of the Congress arose, and delivered a short, but very impressive farewell address. Votes of thanks to the several officers of the Congress, having been unanimously passed, a final adjournment took place at half past 4, P. M.

During the progress of the meeting of the Congress, letters of adhesion to the Peace Cause, were read, from a large number of distinguished individuals, who were unable to attend. Among these may be mentioned the names of the Archbishop of Dublin, Thomas Carlyle, Baron Humboldt, Liebeg the Chemist, and Victor Hugo.

At the adjournment of the Congress, it was announced that the British delegates would give a *soiree* on the evening of the next day, Friday, at Willis' Rooms, for the special reception of the foreign delegates, and tickets were furnished accordingly.

On every account, I must say that, I look upon the present meeting of the World's Peace Congress, as a great and interesting affair; and when I look upon it in connection with the Great Industrial Exhibition, where there is not only a commingling, in the Crystal Palace, of the choicest productions of all countries, but,

at the same time, a friendly commingling and a peaceful and noble rivalry of the people of the different nations, I can regard them in no other light, than that of harbingers and hasteners of the time predicted, when "the wolf shall lie down with the lamb"—when "the nations shall learn war no more,"—and when all the families and kindred of the whole earth, shall be gathered into *one fold, under one shepherd—and he* "THE PRINCE OF PEACE." \*

JULY 25. *Friday.*—Got off pretty early, this morning, on an excursion to the lower part of the city. I at first spent some time in wandering about the St. Katherine's and London Docks. These are situated on the north side of the river, a little below the Tower. Their great extent, the vast amount of shipping, and the immense number and magnitude of the store-houses, are calculated to overwhelm and bewilder a stranger in a hasty survey. These docks occupy 39 acres, and cost more than £6,000,000 sterling; but they are of much less extent than the East and West India Docks, lying further down the river. The West India Docks, including the canal leading into them, occupy 295 acres, but I found no time to visit them.

From the London Docks I proceeded to the Thames Tunnel. This tunnel passes under the bed of the river, in the eastern part of the metropolis, and nearly two miles below London Bridge. It was originally projected and finally constructed by the energy and skill of Sir I. K. Brunel. It was begun in 1825, and opened to the pub-

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\* A brief report of the doings of the Peace Congress, was made by the author to the Chairman of the Vermont Peace Committee, and published in the Vermont Chronicle.

lic in 1843. It consists of a square mass of brick-work, 37 feet wide and 22 feet high, containing in it two arched passages, each  $16\frac{1}{2}$  feet wide, and  $15\frac{1}{2}$  feet high. Each passage has a carriage road  $13\frac{1}{2}$  feet wide, and a side-walk 3 feet wide. The two passages are separated by open arches, and the whole interior is well lighted with gas, having a burner in each arch. The whole length of the tunnel is 1300 feet, and the thickness, between the tops of the arches and the bottom of the river over them, is 15 feet. The cost of the Tunnel was £614,000. Though carriage roads are constructed in the Tunnel, there is no way provided for carriages to enter it at either end. Foot passengers gain admission by descending a circular shaft, some 40 feet wide, and 60 feet deep, by circular stairs, and emerge on the other side of the river by a similar shaft, after passing through the tunnel. The toll is one penny. It is not found to be so much used as a business thoroughfare as was expected, but large numbers pass through to admire it as a curiosity; and yet the revenue from it affords no adequate return for the outlay in its construction. I entered the tunnel on the north side of the river, and emerged from it on the south side. I found nearly all parts of it thronged with people moving in different directions, and in almost all the arches, near the lights, were stands for the sale of refreshments, toys, and a great variety of useful and fancy articles. As I walked deliberately along, admiring the beauty of the arches and the vastness of the work, I could not help thinking, what a scampering, and scrambling and screaming would take place among the inmates of the tunnel, in case the mighty Thames, which was rolling over our heads,

should burst through the brick arch, which protected us, and pour in upon us a deluge of water.

I returned to the north side of the river by way of London Bridge, and in the evening, availing myself of the ticket furnished me for the *soiree*, I proceeded to Willis' Rooms, where I found myself in a party consisting of more than a thousand persons, about one third of whom were ladies. These rooms are very large and airy, beautifully finished and richly furnished, with sofas and mirrors and pictures, and are regarded as one of the most fashionable and honorable places of entertainment in London. I found in the vast crowd, but few to whom I had been previously introduced. Mr. Beckwith and Mr. Burritt, were the only Americans present, with whom I was acquainted. The evening was mostly spent in conversation in little clusters; but a short time before I left, several gentlemen entertained the company by short speeches. The refreshments were quite simple. They consisted of several kinds of cake, strawberries and ice-creams; with lemonade, tea and coffee for drinks. I left the company a little after 11.

**JULY 26. *Saturday*.**—Day stormy—spent a large part of it in Westminster Abbey. There are three principal entrances to the Abbey—from the west, under the great towers, into the nave—from the churchyard, on the north, into the north transept—and from the east, between the Chapter House and the main body of the Abbey, into the south transept. This last entrance is directly opposite to the entrance to the House of Lords, in the new Houses of Parliament.

The south transept is best known by the name of Poet's Corner; and it derives its name from the cir-



cumstance, that it contains monuments erected to the memory of nearly all the distinguished English poets. The number of inscriptions in Poet's Corner exceeds fifty. Among these, I noticed the names of Geoffrey Chaucer, William Shakspeare, Ben Johnson, Edmund Spenser, Samuel Butler, John Milton, Thomas Gray, Matthew Prior, John Dryden, Abraham Cowley, James Thomson, Oliver Goldsmith, and so on. The monuments to distinguished civilians, jurists, and men of science, are mostly in the nave and north transept. The dignitaries in church and state, embracing bishops, saints, nobility, and royalty, have their monuments and inscriptions mostly in the choir and the numerous chapels. I learn, from a published list, that the whole number is three hundred and fifty.

Coleridge once said—"On entering a Cathedral, I am filled with devotion and awe; I am lost to the actualities that surround me, and my whole being is merged into the infinite—earth and air, nature and art, all swell up into eternity, and the only sensible impression left is, that I am nothing;" and it seems to me as if it were hardly possible for any one to enter Westminster Abbey without experiencing somewhat of this sentiment. While looking around upon the dingy monuments of knights and princes, and endeavoring to decipher their half-obliterated inscriptions, the truth of the well-known lines—

"A heap of dust alone remains of thee,  
'Tis all *thou* art ———"

was continually forcing itself upon my thoughts, not-

withstanding all these costly efforts to immortalize their chivalry.

JULY 27. *Sunday*.—Attended morning service at St. Paul's Cathedral, but being mistaken half an hour in the time of its commencing, I found the choir, in which it was performed, filled when I arrived, in consequence of which I failed in hearing much of the service. The choir, in which the public religious services were performed, is separated from the nave of the church by a bronze grating, nearly over which stands the great organ. The gateways through this grating are closed, when the service commences, which prevents any from going in, or coming out, during the service, so that a person arriving too late is able to hear very little, excepting the voice of the immense organ. Excepting a few who listened on the outside of the grate, the multitude, which could not gain access to the choir, spent the time of service in the body of the church, looking at the monuments and inscriptions.

The monuments here are few in number, and mostly of modern date. Among these, are monuments of Nelson, Collingwood, Cornwallis, Abercrombie, Sir William Jones, Bishop Heber, Dr. Johnson, and Howard, the philanthropist. Nelson's tomb is in the vault below.

Over the entrance into the choir, is a modest inscription to the memory of the builder of the cathedral, in Latin, of which the following is a translation :  
“ *Beneath lies Christopher Wren, the architect of this*

church, and city, who lived more than 90 years, not for himself alone, but the public. Reader, do you ask his monument? Look around!"

JULY 28. *Monday*.—Spent the greater part of this day in the British Museum. Noticing that most of the fresh water species of molluscs of Lake Champlain were wanting in their collection of shells, I gave them several specimens of our *Limnaea megasoma*; also some geological specimens from Vermont.

JULY 29. *Tuesday*.—When I called upon Mr. Lawrence, the American Minister, soon after my arrival in London, he very kindly offered to give me tickets to several places which I thought I might like to visit. But, finding that the time of my departure was so near that I should not be able to avail myself of them, I called upon him this morning to thank him for his proffered favors. His residence is near the west end of Piccadilly Street, not far from the corner of Hydepark, and having Green Park on the south. I was received very politely, and he appeared to treat the Americans generally, who called upon him, with much attention.

From the residence of the American Minister I went to the Crystal Palace, where I spent the remainder of the day. I have now probably made my last visit to the Crystal Palace; but I have no time, this evening, to record, in my journal, as I would like to do, some general remarks respecting this wonderful building and what it contains. That must be deferred to a more convenient period.

JULY 30. *Wednesday*.—Spent the forenoon in attending to sundry little matters preparatory to my departure from London, and at 2 P. M. proceeded in a cab to the Waterloo Railway station. At 3, precisely, I left London in the express train for Southampton, where I arrived at 5, making the passage of eighty miles in just two hours, including two stoppings, amounting to about five minutes. The fare from London to Southampton is \$3.

After the usual ceremony and bustle, and paying the several fees of portorage, dockage, &c., I found myself at 5½ P. M. on board the steamer, *Queen*, where I met with a Mr. Jackson and wife, who were passengers out with me in the *Franklin*, and were now on their return. We left Southampton a little before 6 P. M. and arrived at Cowes at 7, where we lay till nearly 9, awaiting the arrival of the *Humboldt* from Havre. At 10, we were all safely on board the *Humboldt*, and ready to take our departure for America. I had been but a few minutes on board before a gentleman came up to me and called me by name and I was no less delighted than surprised to learn, that he was a Vermonter and a near neighbor to me when at home—O. F. Holabird, Esq., of Shelburne. He informs me that he is concerned with S. W. Jewett, Esq., of Weybridge, in getting out to the United States a choice variety of sheep, and that he had been to France on that business. We neither of us knew that the other was in Europe, and the thought that I am to have his company across the wide ocean, is to me the source of much gratification.



JULY 31. *Thursday*.—I retired to my state-room last night at about 11½, and slept very well till 5 this morning. I find my state-room nearer mid-ship and more pleasantly situated than the one I occupied on board the Franklin, and that my chum is a youngster by the name of McKenzie. When I arose this morning, I found the heavens overcast with clouds, and it has continued cloudy all day, with fog, slight sprinkles of rain, and a strong breeze directly ahead. Have had fine views of the coast of England, as we passed along, and of the Edystone and several other light-houses. Saw land for the last time a little after noon. The sea has been somewhat rough during the day, and the effect of the pitching and tossing of the ship, I see, is quite plainly depicted in the countenances of the passengers. The sun not having been visible to-day, no observations could be made for time or latitude. In going into the dock at Havre, the frame work of the Humboldt's engine was badly cracked, and this afternoon it was found that so much friction was produced, in consequence, that parts of the machinery had become heated almost to a red heat. They were, therefore, obliged to stop the engine for more than half an hour for the purpose of cooling it, and strengthening the frame work, by means of wedges. The injury is greater than was supposed, when the ship left Havre, and fears are had that it may entirely fail before we get across the Atlantic.

AUGUST 1. *Friday*.—Another cloudy day, with a

strong head wind. Nearly all on board are suffering seriously by sea-sickness, and some are very sick. Have felt some nausea and loss of appetite, but suffer very little compared with most others. Have passed in sight of two or three sail, but nothing has occurred of much interest. It may be set down as a dull, gloomy day, characterized only by sea-sickness and the monotony of the ocean.

AUGUST 2. *Saturday*.—In most respects, this day may be set down as ditto to yesterday. The wind was strong ahead all night, and has continued so through the day, and the ship has tossed and pitched very badly—a state of things not well calculated for the speedy removal of sea-sickness. The condition of the sufferers does not appear much improved. And while the situation of those on board has been made very disagreeable by unfavorable wind and weather, it has been made doubly irksome, by repeatedly stopping the engine to cool and wedge up the machinery. Saw the sun a few moments to-day, but think Capt. Lines was not able to get a good observation for time and latitude. Saw a large school of porpoises gambling and leaping out of the water in their usual way. The day is closing as it began, with the wind and sea high, and the weather foggy, chilly and gloomy.

AUGUST 3. *Sunday*.—The wind continued high and ahead during the night, but abated in the morning, and before noon came round and blew lightly from the north, the sea at the same time becoming less agi-

tated ; but our broken engine gave us much anxiety, and the ship was frequently stopped for the purpose of strengthening it by wedging and bracing. If our engines should finally fail us, it must take us a very long time to reach land in any direction, as we are now about one-third of the distance across the ocean, and our means of sailing very feeble. The wind, which had been light during the forenoon, began to increase about 1 P. M., and is now (9 P. M.) blowing quite a gale from the north, accompanied by rain and mist. Our sails are all spread, and we are making better progress than heretofore, but the ship pitches and rolls considerably.

AUGUST 4. *Monday*.—Retired last night about 10, and slept very soundly till 4, when I awoke almost suffocated, on account of the closeness of the windows, doors and hatches, they all having been shut during the night to keep out the water and spray which was dashing over the ship. The wind had much abated, and the weather was fair, with the thermometer at  $58^{\circ}$  in the shade. A little before 9 A. M., passed and spoke the Norwegian barque *Ottillia*, bound to Quebec. At 10, passed a sail on our starboard, bound eastward ; and about noon, saw four small whales, swimming nearly abreast and very near together. Their heads and backs were at the surface of the water, and the spray, which they blew up in breathing, appeared to rise only a few feet. Before night it became more cloudy, and the wind changed to the south-west, and is now blowing quite hard.

AUGUST 5. *Tuesday*.—I was awakened this morning, between 1 and 2 o'clock, by the whistling of the wind among the shrouds and the motion of the ship, and after lying awake till half-past 2, arose and went on deck. The wind was blowing a brisk gale from S. W. by S., the sails were partly up, and we were plunging through the waves and foam in a magnificent manner. The broken surface of the sea, as it lashed the sides of the ship, afforded me a fine opportunity to observe the sparkling and phosphorescence of the ocean, which I continued to do for half an hour. The appearance was quite unlike that observed on the morning of the 5th day of my passage out. The light, in that case, seemed to be a uniform glow from the whole surface of the wave; but in the present case, it consists principally of sparks, like those emitted by millicens of fire-flies. The spark, or flash, appeared on the surface of the water; and from it a luminous point seemed to sink down into the water, illuminating it to some distance around, as it descended.\* About 3, I retired to the cabin, where I lounged till daylight. While the waves were running very

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\* The phosphorescence and sparkling of the ocean, are now believed to result from two general causes—one, the emission of light by very minute animals—and the other, from the decomposition of particles of organic matter. Both these causes abound most in the tropical seas, and hence these luminous appearances are far more frequent there than in higher and colder latitudes. Mr. Darwin, who devoted much attention to this subject, during his voyage in the *Beagle* around the world, thinks that the phosphorescence of the ocean has a very intimate relation to the electrical state of the atmosphere. See his *Voyage of a Naturalist*, vol. 1, p. 203.



high, this morning, their real height became a subject of some discussion. At first, there appeared much diversity of opinion; but after watching them for some time, and making the best estimates we could from ocular data, the general conclusion arrived at was, that the perpendicular height, of a straight line drawn from crest to crest, of two of the highest waves, would be about 16 feet above the bottom of the depression between them, or only 8 feet above the mean level of the sea. It may seem surprising that I should speak of the sea running high, when the waves are raised only 8 feet above the mean level of the ocean, especially as we are accustomed to read in narratives of voyages, of waves running as high as the top of the ship's mast—of swells mountain high, &c. But such statements, though erroneous, may be honestly founded on appearances. When the sea is running very high, the ship may frequently be in a position in which, to a person on board, an approaching wave may actually appear to be higher than the ship's mast, and a distant swell may have no slight resemblance to a mountain. But they are so only in appearance, and the appearance is occasioned, principally, by the inclination of the plane of the ship's deck to the plane of the horizon, or general sea-level.

The sun has been visible some small part of the day, and sufficiently so at noon to enable the captain to get an observation. Our longitude, at that time, was about  $31^{\circ}$ . Passed one sail to-day, some distance to the north of us, bound eastward.

AUGUST 6. *Wednesday*.—Went on deck at half-past 2, in the morning, and spent some time in watching the scintillations of the agitated waters. Appearances very similar to those noticed yesterday morning. It was cloudy, with some rain, the wind strong from S. S. E., the sea running high, and the ship pitching and tumbling badly. I retired again to my berth, and slept till 5, when I found that the wind had somewhat abated, and that the sea was more calm. At 7½ A. M., a small portion of a rainbow was seen in the west. At this time, the barometer was the lowest that it has been at any time since we left Cowes, being 29.40 in. During the forenoon, we had frequent rain-squalls from the N. E. About noon, the wind came round to N. by W. and increased in violence till nearly night, lashing the sea into a violent ferment and dashing the spray over the upper deck to such a degree that no one could comfortably remain there. We have passed two sails to-day, one to the north of us and the other to the southward; and I was told that several black fishes showed themselves about noon, but I did not happen to be on deck to see them. My friend Holabird informs me that large numbers of them were seen, during their passage out in the Humboldt.

We have had a rainbow in the morning, two days in succession, and the squally weather, yesterday and to-day, has been such as to verify the old proverb—

“A rainbow in the morning,  
Is the sailor’s warning.”

I can hardly recollect a case, in which a rainbow in

the morning, either on sea or land, was not followed by a squally day.

In the early part of the day, a small whirlwind, or water spout, passed by near the ship, whirling the spray upwards towards the clouds, but it was not felt on board the ship. I am told that these whirlwinds will sometimes cross a ship, with their force concentrated within so narrow limits, as to lift a mast, with its sails, out of its place, without disturbing any thing else. Such statements, if true, must constitute strong props of Mr. Espy's vortex theory of storms. The wind is somewhat abated this morning, but the sea continues greatly agitated.

AUGUST 7. *Thursday*.—The weather, this morning, was still lowery and disagreeable, but the force of the wind and the turbulence of the sea, were very much abated. The thermometer, at sunrise, in the shade, stood at  $58^{\circ}$ . Yesterday morning, it was at  $60^{\circ}$ . During most of the day, the horizon has been clear and well defined, and the sea tolerably calm. But just before night, a low bank of dense fog was seen extending for a great distance along the horizon in the south-west, strongly resembling distant land; but instead of being land, I learn that it is only an indication that we are about entering upon the cold and dreary banks of Newfoundland. We have had, to-night, another most splendid sunset; I am not sure that I ever saw a more beautiful one, even at Burlington, so renowned for its beautiful sunsets. It seemed as though it were hardly possible to have a more perfect display of bright and varied colors, lovely tints and delicate shades, than was

exhibited in the west at the moment the sun was disappearing below the surface of the ocean. The effect of refraction in shortening the sun's vertical diameter, was very perceptible, as was also the difference of curvature in the arcs bounding the upper and lower margins of the sun; but the distortion of the sun's disc was trifling, compared with that I witnessed on the Grand Bank, in my passage out. The weather is now favorable, and our progress good.

AUGUST 8. *Friday*.—It was 5 o'clock when I went on deck, this morning. Found the weather foggy and chilly, the thermometer standing, in the shade, at  $48^{\circ}$ . Before noon, the fog had mostly disappeared, and the sea had become more calm and smooth than I had before seen it at any time during my passage out and so far back. At noon, we were on the Grand Banks, being in lat.  $47\frac{1}{2}^{\circ}$ , and long.  $49^{\circ}$ , 4 degrees further north than we crossed the Banks in our passage out. Passed one sail to the south of us, headed east, the only one seen in two days. Sun-fishes, or jelly-fishes, are seen in considerable numbers since we came upon the Banks, and floating branches of sea-weed are frequently seen. Passed, also, this afternoon, a large school of porpoises. The air has been uncomfortably cool on deck during the day, but otherwise the weather has been remarkably calm and pleasant. The temperature, to-night, both of the water and the air, is about  $56^{\circ}$ . The wind seems to be rising, this evening, and appearances indicate an approaching storm. We are now nine days out from Cowes, and are in about the same longitude as when four days out from New York, but are in latitude about  $4^{\circ}$  further north.



When the weather is favorable, the passengers usually amuse themselves on deck, during the day; and pass the evening in the great dining-saloon, either reading or playing whist. While I am now writing, alone in my state-room, a large part of the passengers are in the saloon, over my head, around the card-tables; and by their boisterous mirth, one might conjecture that they were endeavoring to drown their cares in Champagne. I now occupy a single state-room alone, one having been vacated by its occupant having taken a berth on deck on account of sea-sickness. I was very glad to leave my former one, on account of my chum indulging a little too freely in Champagne, and other strong drinks, to be at all times an agreeable companion.

AUG. 9. *Saturday*.—I begin this day's journal, with some account of an occurrence, which I do not wish to have repeated, and the thought of which almost makes me shudder. Understanding that the steamers sometimes passed within sight of Cape Race, the southern point of Newfoundland, and knowing that we were approaching the neighborhood of that island, I mentioned to one of the mates last evening, that I would like to be informed of it, if we should chance to come in sight of land. He replied that, on account of the density of the fog, we should not, probably, see land at all, and, if we did, we should not come in sight of it before 4 or 5 o'clock, next morning. I retired to my berth about 10, and slept very soundly till midnight, when I awoke and lay awake for some time; but finally got into a drowse, from which I was suddenly awakened at half past one, A. M., by a violent concussion of the ship and

the stopping of the engine, which were immediately followed by a careening of the ship, as though it would roll entirely over upon its side. I felt it to be necessary to seize hold upon the side of my berth, to prevent being rolled out. Immediately I perceived that, there was much noise and bustle in all parts of the ship, and, knowing something must be wrong, I hastened on my clothes, and was leaving my state-room to go on deck, when I met my friend Holabird, who, fearing I was not aware of our critical situation, had kindly come down to let me know that, we had struck upon Cape Race. I hastened upon deck, and found our ship with her starboard side towards a long line of precipitous rocks, rising abruptly out of the ocean, and but a few rods from us. But by this time, the engine was again in motion, and we were now moving forward, nearly parallel to the cliff; and assurances that the ship had sustained no injury, soon relieved us from our great anxiety.

It appeared that, at the time of the occurrence above mentioned, in addition to the usual watch, the captain and one of the mates were on deck; but that the rocks were not discovered, till the ship was close upon them, and headed almost directly towards them. Upon seeing the danger, the captain instantly gave the signal to stop the engine and port the helm, by which the bow of the ship was thrown round to the larboard, presenting the starboard side to the shore, towards which it continued to approach by the momentum previously acquired, till the keel struck the bottom; but, the motion being side-wise, the momentum was not expended on the point of contact, but in causing the ship to careen, or roll towards the shore. This sudden bringing round the ship's side

towards the rocks, was, probably, the means of saving it, and all on board, from destruction. Had it struck in the direction in which it was previously moving, it would, in all probability, have been wrecked, and whether any on board would, in that case, have reached the shore, is quite uncertain.\* The life-boats on board were not sufficient to carry one half of the passengers and crew, and the scramble for places might have rendered them useless; and if they had been successfully filled and got clear of the sinking ship, there would be no certainty that a landing could be effected, on account of the surf and precipitous nature of the shore. And in case a landing was effected, the difficulties would not

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\* The captain was not disposed to admit that the ship did actually strike the bottom at all. He pronounced the shock and careening of the ship, to be the effect of stopping the engine suddenly, and of bringing round the helm forcibly, at the same time, in order to change the ship's course. But he appeared to be alone in that opinion. All else on board were very sure that she struck; and among them were several old and experienced sea-captains.

The arc of the great circle, which marks the shortest distance, along the surface of the globe, between New York and Cowes, passes over the south part of Newfoundland, and, at proper seasons of the year, navigators endeavor to shorten their voyage, by keeping as close as practicable to this arc. Consequently, they endeavor to pass as near to Cape Race, as is consistent with a due regard to safety. But the almost perpetual cloudiness and fogs, and the many currents in that part of the ocean, render it impossible to know, at all times, the ship's true place. At the time of our peril, the Humboldt was evidently several hours before her reckoning. But, to exculpate Capt. L. from blame, in this case, I would remark that, the Humboldt's compass traversed so badly, that little confidence could be placed in it, and that for some time previous to reaching Cape Race, the weather had been so cloudy and foggy, as to render observations for time and place impracticable.

be over; the region was cold, barren and uninhabited, and the distance to the nearest settlement, many miles.

In my passage outward and back, I have had occasion, frequently, to reflect upon the scanty provision made on our ships, for the safety of those on board, in case of accident, and the occurrence of this morning, is well calculated to revive the reflection. Supposing one of these ships strike on a rock, an iceberg, or another ship, or be on fire, and it is necessary to abandon her, and there be life-boats sufficient to carry only one half on board, there would be an immediate rush to these boats, and, each consulting only his own safety, there would be such a struggle for place, that the boats would be capsized or swamped, and all would, probably, perish. On the other hand, if it were known that the safety boats were sufficient to receive every soul on board, this scramble for place would not occur, and the probability of *all* being saved, would be very much greater, than that *any* would escape, in a case like the former. It appears to me that every ocean steamer had ought to be obliged, by law, to carry a sufficient number of life-boats, to receive on board them, every soul in the ship, in case of accident. The metallic life-boats are now made so light that their weight can form no objection, and to prevent their occupying too much room on deck, they might be nested into one another, like measures.

Passed an ocean steamer, supposed to be one of the Cunard line, bound eastward, and several sailing vessels, to-day.

AUGUST 10. *Sunday*.—Morning foggy and rainy, but the sea quite tranquil. Before noon it cleared away, and the weather became quite pleasant and comfortable,



the temperature having become warmer and the air drier than it had been for a long time, and it was generally remarked that, the feeling of the air and the aspect of the heavens, had become decidedly *American*.

Towards noon, Capt. Lines informed me that, there had been a consultation among the passengers, and that they were generally desirous of having religious services on board, and had requested him to invite me to officiate. Knowing that our exposure to danger and our providential escape, yesterday morning, had produced very serious impressions upon the minds of many on board, I consented, and half past 1, P. M., was appointed as the time for the services to commence.

At the time appointed, a very large proportion of those on board, assembled in the dining saloon, where I read the afternoon services for the eighth Sunday after Trinity, with the exception of the substitution of the 107th Psalm, for the Psalms for the day, and the addition of the following collect, which I had endeavored to adapt to the occasion :

COLLECT.

Most gracious LORD, whose mercies are over all thy works, we praise and magnify thy glorious name, that thou hast been pleased to conduct this ship and all on board, thus far in safety through the perils of the great deep. Make us duly sensible of thy merciful providence towards us, when brought, apparently, upon the brink of destruction, thou didst snatch us from the jaws of death, and didst remove from us the fearfulness and anxiety with which we had been so suddenly overwhelmed. Continue to us, O LORD, thy gracious guidance and protection during the remainder of our voyage, and when thou hast brought us in safety to the haven where we would be, enable us to express our thankfulness, by a holy trust in thy providence, and a willing obedience to all thy laws, through JESUS CHRIST, our Redeemer. *Amen.*

My sermon was founded on the 18th verse of the 4th

chapter of the second epistle to the Corinthians. In it I attempted a comparison between the mariner upon the ocean, and the Christian upon the voyage of life, and to show that both proceeded by faith, rather than sight; that both were looking at objects unseen, except by faith—the mariner to the port to which he is bound, and the christian to the haven of eternal rest. The audience was very attentive, and though few could take an audible part in the services, for want of prayer books, (a want on this ship which I hope our Prayer Book Societies will soon supply,) they appeared generally to be much interested in them.

The weather, since 10 o'clock this morning, has been very fine, and the monotony of the ocean has been relieved by the sight of a large number of sail, moving in different directions. About sunset, we passed through the largest school of Porpoises that I have ever yet seen. The sea seemed to be literally alive with them, for miles around. They were leaping out of the water, skipping along the surface and cutting all manner of capers. At one time I noticed several of them just below the surface of the water, by the side of the ship, swimming the same way the ship was running, as if in a race with it, and, although the ship was running at the rate of 11 miles an hour, they seemed easily to keep pace with it. There must have been, at least, a thousand Porpoises in sight from the ship; and they were accompanied, as usual, by a large number of Petrels and Gulls. Among the Petrels there seemed to be many belonging to a larger species than those I had usually seen. The sunset to-night was very beautiful, resembling one of our finest sun-sets at Burlington. As the sun was sinking

beneath the ocean in the west, the full-orbed moon was at the same time rising in the east, forming altogether, a most grand and interesting spectacle. To-night, it is said, we shall pass Halifax, in Nova Scotia.

AUGUST 11. *Monday*.—Rose about 5, went on deck, and found the morning delightful, and the prospect cheered by the presence of a large number of fishing vessels. By the help of his glass, the Captain was able to enumerate 11 sail, in one small section of the horizon in the north west, while many others were in sight, in other directions. These fishing vessels are said to be lying up St. George's Bank. Have noticed, to-day, much sea-weed floating in the ocean; but, as the deck is about 20 feet above the surface of the water, I was unable to secure any specimens of it. About 3 P. M., I noticed, what appeared to me like a long line of breakers, crossing our course at some distance ahead. The sea beyond, appeared in great commotion, and to be higher than nearer the ship. We soon entered upon these agitated waters, but found no increase of wind, and were told that the phenomenon was occasioned by the tide running northwardly, over the shoals towards the bay of Fundy. About sun-set, a steamer was seen some 15 miles to the south-east of us, headed towards New-York, and it is supposed to be the *Africa*, which was to leave Liverpool on the 2d inst. We have had another beautiful sun-setting and moon-rising, and the sea is now quite calm, but the fogs seem to be gathering around us.

AUGUST 12. *Tuesday*.—Was awakened a little after midnight by the stopping of the engine, and arose and went on deck to learn the cause, when I was told it was

for the purpose of taking soundings, we being then on Nantucket shoals. The same operation was repeated several times before morning, by which our progress was much hindered; but between 4 and 5 A. M., we took a pilot on board, to conduct the ship into New York, which we hoped to reach in the evening. About 10 A. M., a steamer could be discerned in the distance ahead of us, supposed to be the same seen last night, and to have passed us during our delay on the shoals. Came in sight of Long Island, about 1 P. M. Thermometer in the shade  $81^{\circ}$ . This morning, a large shark was seen over the side of the ship; was not on deck at the time.

Have passed many sail to-day, and during the afternoon had a good view of the light-house at Fire Island, a locality rendered memorable by the shipwreck, in which the gifted Countess D'Ossili (Miss Fuller,) lost her life, and the statue of John C. Calhoun was sunk. About the same time, Neversink, in New Jersey, hove in sight. We passed Sandy Hook, just as the full-orbed moon was rising, red as blood, from the bosom of the ocean, and came in sight of the numerous lights, which were just beginning to twinkle along the Jersey shore. We reached the quarantine ground about 9 in the evening, where we were detained an hour, before we could get a physician on board, and have permission to proceed. At length we were again underway, and at 11 o'clock, the Humboldt was safely moored at her pier, No. 4. North River. Many of the passengers are going on shore, at this late hour, but I have concluded to remain on board till morning.

Having shown Capt. Lines my abstract of the Log of



the Steamship Franklin, during our passage out, (*see page 28*,) he, to-day, very generously furnished me with the following abstract of his own Log-book, during our present voyage.

## ABSTRACT LOG.

*Cowes to New York—Steam Ship Humboldt.*

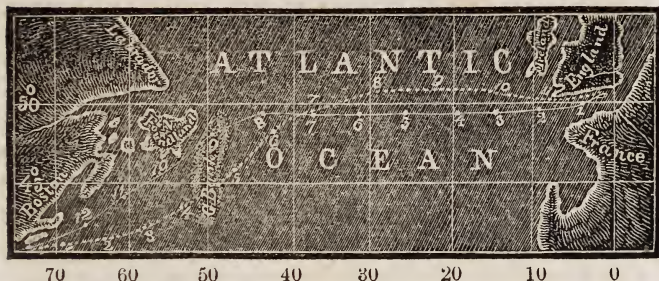
D. LINES, COMMANDER.

Date Noon.	Latitude North.	Long. West.	Dist. Run.	Thermo. Air.	Wat'r	Barom. Inches.	Rotations Engine.	Coal. Tons.
July 31	49° 50'	4° 30'	140	68°	62°	29,80	9,077	44
Aug. 1	49 50	9 47	204	66	62	29,80	14,076	59
" 2	49 50	14 37	186	66	62	29,50	11,783	50
" 3	49 50	19 35	190	67	63	29,70	11,971	51
" 4	49 27	25 30	230	64	63	29,90	15,410	69
" 5	49 5	31 30	238	67	63	29,60	15,730	63
" 6	48 40	37 0	218	62	62	29,40	15,460	69
" 7	48 21	43 5	245	61	61	29,70	16,057	64
" 8	47 19	49 20	260	56	52	30,00	18,783	62
" 9	45 55	55 33	265	60	56	29,90	18,708	64
" 10	44 18	61 15	256	63	60	29,50	18,622	55
" 11	42 9	66 30	256	66	63	29,80	19,445	63
" 12	40 37	72 0	260	66	66	29,90	19,334	66
P. M.	40 42	74 2	120				8,350	29
3068				212,806 808				

The Humboldt left Cowes, at 10 o'clock in the evening of the 30th of July, and arrived at New York at 11 o'clock on the evening of the 12th of August. Hence, allowing five hours for difference of longitude, the total time from Cowes to New York, was 13 days and 6 hours—40 hours longer than my passage out from New York to Cowes, in the Franklin.

In the following Chart, the dotted line marks the Franklin's passage out, and the continuous line the Humboldt's passage back. The number show the ship's position at noon, on the successive days of each voyage.

CHART—ROUTES OF THE STEAM-SHIPS FRANKLIN AND HUMBOLDT.



AUGUST 13. *Wednesday*.—After the inspection of my baggage by the Custom House officer, I had it transferred to the Steamer Troy, which was to leave for Troy in the evening, and then spent the day in the city. I could see very much in New-York, which contrasted favorably with what I had seen in Paris and London; but, in one thing, that of cleanliness, I was sorry to notice that she fell far behind those old foreign cities. Between 5 and 6 P. M., I came on board the Troy, which left New-York a little after 6. The day has been exceedingly warm, and the heat more oppressive than at any time since I left Burlington.

AUGUST 14. *Thursday*.—Was awakened at 3 A. M., by the stopping of the engine. Went on deck and found the boat stuck in the mud, some 20 miles below Albany. We got underway again, after a delay of about an hour, and reached Troy a little after 5. Left, in the cars for Whitehall, at 6, went on board the Steamer United States, Capt. Davis, at Whitehall, at 9, A. M., and arrived at Burlington at 4, P. M., having been absent 11 weeks and 2 days, of which 2 weeks were spent in Paris and 5 in London, and having travelled about 7500 miles.

And now I close my journal; grateful to those, whose liberality has enabled me to see and enjoy so much, and to that God, who has watched over, protected and returned me in safety and improved health to my dear family, and my many kind friends.

## NOTES.

## LONDON.

Before taking my final leave of London, I had intended to enter on my journal, some general observations respecting that wonderful metropolis. But as I found no time to carry out that intention, I will here append a few remarks.

London as it now exists, comprises what were, anciently, the city of London and its liberties, the city of Westminster, the Tower hamlets, and the boroughs of Finsbury, Marylebone, Southwark and Lambeth, with their respective suburbs; besides several villages in Middlesex and Surry. All these, though originally distinct, are now swallowed up in London, the great Metropolis of the British Empire.

The territory occupied by London as it is, is oval, or egg-shaped. Its longest diameter is from east to west—from Bow to Hammersmith, and measures 11 miles. Its width from north to south—from Holloway to Stockwell, is 6 miles. Its circumference, exceeds 30 miles, and its area, including the river, is about 40 square miles. The width of the Thames at London Bridge, is 310 yards, at Waterloo Bridge 400, and about the same at the Tunnel. The length of the Thames within the Metropolis, is 7 miles, and it is crossed by 7 bridges, two of which are iron, and the others stone. The sweep of the tide at London Bridge is 19 feet, and the tide flows up the Thames 15 miles above that Bridge. No large shipping is seen above London Bridge, but the river be-

low, for three or four miles, and all the extensive collateral docks, are filled with ships.

The statistics of London are such as to appear almost incredible, even to a person who has seen it. It is stated that it contains more than 80 parks and squares, more than 10,000 streets, lanes and courts, 250,000 houses, and 2,100,000 inhabitants, besides, 100,000 strangers. Of these 180,000 houses and 1,500,000 inhabitants are on the north side of the river, and 70,000 houses and 700,000 inhabitants, are on the south side.

The places of public worship, in London, amount to upwards of 750. Of these, 340 are Episcopal churches or chapels, 20 belong to the Roman Catholics, 14 to foreign Protestants, 370 to different Protestant dissenters; and there are 8 Jewish synagogues. St. Paul's Cathedral and Westminster Abbey, the two most interesting religious edifices, have been mentioned in my journal.

The royal palaces and mansions of the nobility in and about London, are very numerous, and some of them very large and elegant. Buckingham Palace, situated at the west end of St. James' Park, and south of Green Park, is the present town residence of Her Majesty, Queen Victoria, and is a very large and imposing mass of buildings. Its situation is retired, airy and delightful.

The new Houses of Parliament, when completed, will constitute the largest structure in London, the Crystal Palace only excepted. It presents a noble eastern frontage, towards the river of nearly 1000 feet in length, and covers an area of nine acres. The height of its great tower is to be 346 feet. Beside the splendid rooms of the two houses of Parliament, the number of official residences, offices, committee-rooms, courts, lobbies,



corridors, dining and washing-rooms, &c., is astonishingly great. Its cubic contents exceed 15,000,000 feet, being greater, by one half, than St. Paul's. It contains nearly 600 distinct apartments, among which is to be a chapel for divine worship. The old houses of Parliament were destroyed by fire, October 15, 1834, and these were commenced in 1840. The best view of them is from the river, or rather, from the opposite bank, between Westminster bridge and Lambeth Palace.

London is now, not merely the largest city in the known world, but it exceeds in opulence, splendor and luxury, (perhaps in misery,) all that ever was recorded of any city. It may safely be affirmed to be the largest congregate mass of human life, arts, science, wealth, power and architectural splendor, which exists, or ever has existed within the known annals of mankind. It contains, upon a territory about the size of a township seven miles square, a population more than six times as great as that of the whole State of Vermont, or equal to 350 such villages as Burlington.

London, though abounding in parks and palaces and theatres—though abounding in religious, literary and scientific establishments, is yet, emphatically a business place. It is the great central manufactory and warehouse of the world. Every morning, hundreds—yea, thousands of the lofty chimnies of her factories, are seen belching forth volumes of black smoke, and before noon, the heavens are usually obscured, and the city enveloped in a dark, sooty cloud. This smoke condenses upon the buildings and other objects, giving the whole city a dirty and dingy aspect. The Portland and most other kinds of stone, used in building, is naturally of a light

cream color, or nearly white, but here, it soon becomes blackened and stained, giving to the finest and most expensive building a most unsightly aspect.

The fogs, and smoke, and dust, and noise of London are subjects of very general remark, and for very good reasons with regard to most of them. But the burden of these is confined chiefly to the line of the great thoroughfares along the river. Back from the river, in the higher and newer parts of the city, the annoyance from these causes, is comparatively trifling. Along Fleet street, the Strand and Piccadilly street, during the continuance of the Exhibition, there were, from 8 in the morning till 10 at night, two continuous streams of omnibuses and other carriages. one stream running to, and the other from the Crystal Palace; and the rattle and thunder of so many heavy carriages, caused the very earth to tremble. These carriages succeeded each other so closely, that a person was often obliged to wait for a considerable time before he could find sufficient space between them, to allow him to cross the street. In the United States, carriages are obliged, or at least, are expected, to keep the right hand side of the way in passing other carriages moving in an opposite direction. But the reverse of this is the case here. Here all carriages are obliged to keep the left hand side, and, effectually to enforce the observance of this rule, policemen were stationed, at short distances, all along the centre of Piccadilly street, who did not allow a carriage to pass them in violation of it.

The Police regulations are, probably, not surpassed by those of any other city in the world. The average amount of police force, is about 5000, but on account of

the great influx of foreigners to the Exhibition, it has been much increased this year. The policemen are distinguished by a modest blue uniform coat, with their letter and number marked upon its standing collar. They are distributed over the whole city, and are, therefore, every where at hand, and always ready to answer any inquiries, or to guide you to any place you may wish to find. During my five weeks' stay in London, I never knew, or heard of any one, making inquiries of a policeman, whose application was not kindly received and attended to; and I have frequently seen them put themselves to considerable trouble, to show people on their way.

In the midst of the vast throngs in the streets of London, I noticed very little of drunkenness, quarreling, or disorder of any kind. Nearly all seemed intent solely upon their own pursuits, showing little disposition to notice or intermeddle in the affairs of others. I do not recollect to have noticed more than one drunken man who manifested any disposition to produce disturbance in the streets, and he was soon taken in charge by the police.

In judging of the comparative advantages of London and Paris, as places of residence, persons will be influenced very much by their tastes, habits and objects. The climate of Paris is undoubtedly most pleasant. It has less fog and smoke, and the streets, generally, are cleaner. But in parks and open squares, the newer parts of London have the advantage over Paris. In the northern and western parts of London, the streets are, for the most part, straight, broad, well paved, clean and airy, and about one eighth part of the whole territory is

reserved for public squares. These squares are, in many cases, inclosed by handsome iron fences, and within, are planted with flowers, shrubs and shade trees, forming cool and delightful walks, during the hot weather; and some of them are furnished with the additional luxury of refreshing fountains.

St. Paul's, in London, is in latitude  $51^{\circ} 32'$ , and in longitude  $5^{\circ} 37'$  west from Greenwich Observatory. The following are the distances from London to important places, viz:

To Windsor - - -	20	To Amsterdam - - -	190
“ Oxford - - -	56	“ Berlin - - -	540
“ Southampton - -	80	“ Copenhagen - -	610
“ Bristol - - -	118	“ St. Petersburg -	1140
“ Birmingham - -	112	“ Vienna - - -	820
“ York - - -	196	“ Constantinople -	1660
“ Liverpool - - -	201	“ Rome - - -	950
“ Edinburgh - - -	395	“ Madrid - - -	860
“ Dublin - - -	338	“ Lisbon - - -	850
“ Paris - - -	225	“ New York - - -	3200

#### THE GREAT EXHIBITION.

The idea of a Grand Exhibition of the Works of Industry of all Nations, seems to have originated with Prince Albert, and by him, seconded by the efforts of the Society of Arts, to have been embodied into a reality. Mainly through his instrumentality, a Royal Warrant was granted, Jan. 3, 1850, appointing a Board of Commissioners to consider the matter, and on the 15th of August following, the Commission was incorporated by a Royal Charter. Contributions and subscriptions were then sought, and also, designs and plans of a building



suitable to serve the purposes of such an Exhibition. At length after much perplexity and delay, a plan and estimate were submitted by Mr. Paxton, then Head Gardener at Chatworth, which were adopted by the Commission, and a contract was made with Messrs. Fox and Henderson, for the erection of the CRYSTAL PALACE. The Commission were to pay £76,000 for the construction of the building, and the materials were to belong to the contractors, and be removed by them at the close of the Exhibition; but, if the Commission should conclude, permanently, to retain the building, they could do it, by the payment of £150,000 to the contractors. The building was to be in readiness for the opening of the Exhibition on the 1st day of May, 1851.

The Crystal Palace is situated in Hyde Park, and very near the south side. It is built in the form of a parallelogram and is made entirely of glass and iron, excepting a ceiling of boards around the base, for the convenience of hanging up articles for exhibition, and where glass would be in great danger of being broken. The lower floor is of trellis-boards, laid upon sleepers, with open spaces between the boards about an inch wide. The gallery floors are without openings.

The length of the building is 1848 feet—a number less, by 3 than 1851, the date of the Exhibition. The width of the building is 408 feet, with an addition on the north side of 936 feet and 48 wide. The height of the main building is 76 feet, but nearly midway it is crossed by a transept with a semi-circular roof, made 108 feet high, for the purpose of inclosing a group of trees. It also serves to improve the appearance of the building. The main parallelogram is formed, longitu-

dinally, into 11 divisions, which are, alternately, 24 and 48 feet wide, with the exception of the great central walk, or nave, which is 72 feet wide. The entire area of the ground floor is 798,912 square feet, or a little over 18½ acres. The building is in three lofts, one behind another, so that the ends show as a pyramid of three steps, as may be seen by the cut introduced as a frontispiece to this volume.

The columns are of iron, cast hollow, and, for the most part, stand 24 feet apart each way. The number of columns is stated to be 3230. The number of cast-iron girders is 2244, for supporting the galleries and roofs, with 1128 intermediate bearers, besides 358 wrought-iron trusses. The roof, which consists of glass and iron is thrown into ridges and vallies, 8 feet across, and running transversely; and these vallies are directed to the heads of the several columns, so that the water which falls on the various sections of the roof, is conveyed immediately into the heads of the hollow columns, and through them to the earth beneath. The length of all these gutters is 44 miles. There are in the building, more than 200 miles of sash bars, and 900,000 superficial feet of glass. The entrances to the building are at the south end of the transept, and at the east and west end of the main building. There are several other places of exit along the sides of the building.

The Crystal Palace being completed, and the necessary arrangements made, the Great Exhibition was opened with much form and ceremony, on the 1st day of May, 1851. The principal exercises on the occasion were: An Address to the Queen, from the Royal Commission, read by His Royal Highness, Prince Albert;

Her Majesty's Reply; and a Prayer by the Archbishop of Canterbury. From this time, up to the final close of the Exhibition, on the 15th of October, the Palace was continually thronged with visitants, varying from 25,000 to 80,000, daily. The price of admission to the Exhibition, varied at the different stages of it, and on different days of the week. At the opening, season tickets were sold for very high prices; but, during most of the time, the price of admission was 1s. on Mondays, Tuesdays, Wednesdays and Thursdays. On Fridays it was 2s. 6d., and on Saturdays 5s. All exhibitors were furnished with free tickets.

As a general rule, articles from each of the different countries, occupied a separate department of the building. As might have been expected, Great Britain and her dependencies, furnished about one half of the articles exhibited, and occupied the whole of the building west of the transept. The part occupied by the United States was at the east end. Between this and the transept, were arranged, in order, the productions of other countries—as Russia, the German States, Austria, Belgium, France, Italy, Spain, Portugal, Egypt, Turkey, Greece, Persia, Switzerland, China, Brazil and Tunis. The transept and nave of the Palace were occupied by fountains, models of cities, buildings and bridges, and a very great variety of choice specimens of statuary. At the centre of the crossing of the transept and nave, was a beautiful fountain, 10 or 12 feet high, made entirely of glass, and called the *crystal fountain*. There were several other fountains playing in different parts of the building. For the proper examination of the articles, and the award of prizes, they were divided into 34

classes, according to their nature, and the same number of juries appointed. Each of these consisted of an equal number of British and foreign jurors, and each had its chairman; and the chairmen of the several juries constituted the Council. The awards were two kinds of Medals, called the Council Medals and the Prize Medals. As a general thing, the Council Medals were intended to denote genius, contrivance, or mental superiority of some kind, while excellency of material, workmanship, product &c., were rewarded by Prize Medals. The whole number of exhibitors of articles was about 17,000, and the whole number of articles submitted to the examination of the juries, exceeded 1,000,000. The whole number of Medals awarded was 3088. Of these 170 were Council Medals and 2918 Prize Medals. Four Council Medals and 94 Prize Medals, (making 98 in all,) were awarded to exhibitors from the United States, and the whole number of exhibitors from the United States was 534. Hence it appears, that the United States received 7 medals more than their proportion, according to the number of exhibitors. Fourteen articles were sent from Vermont, and 3 Prize Medals were awarded to contributors from this State.

The close of the Exhibition, on the 15th of October, was attended with much less display and ceremony than its opening, on the 1st day of May. The chief exercises were: The reading of the reports of the Juries, by Viscount Canning; Prince Albert's reply; Prayer by the Bishop of London; and Music by the Choir.



# INDEX.

- Abbey, Westminster, 92.  
100, 111.  
Agricultural Society, 41.  
Airy, Professor, 81.  
*Arc de Triomphe de l'Etoile*, 33.  
Archbishop of Canterbury, 88.  
Armory in the Tower, 103.  
Ball to the Queen, 85.  
*Beluga leucas*, 86.  
*Bibliothèque du Roy*, 45.  
Botanical Gardens, 40, 68.  
British Association, 68.  
Cedar of Lebanon, 40.  
*Champ de Mars*, 46.  
*Champs-Elysees*, 54.  
Charing Cross Bridge, 96.  
Chart, 133.  
*Chiffonniers*, 55.  
Coprolites, 75.  
Cowes, 27.  
Crag, 73.  
Crystal Palace, 66, 95, 99, 114, 140.  
Day's length, 20.  
Diamond, *Koh-i-noor*, Mountain of Light, 99.  
Distances fm Lond. 139.  
Distinction between animals and plants, 70.  
D'Obigny, Professor, 33.  
Edystone Lighthouse, 25.  
Excursion, Geological, 72.  
Exhibition, Great, 139.  
Fire Island, 131.  
Fishing, 18.  
Flower Markets, 39.  
Flying Fish, 15.  
Forbes, Professor, 62, 68.  
Fossils of Crag, 77.  
Garden of Plants, 39, 54.  
Grand Banks, 14, 123.  
Great Exhibition, 189.  
Green House, 40.  
Gulls, 17.  
*Halle aux Vins*, 38.  
Harwich, 73.  
Havre, 29, 56.  
Henry VII's Chapel, 100.  
Horticultural Soc., 43.  
*Hotel des Etrangers*, 31.  
" " *Invalides*, 46.  
Hypopotamus, 90.  
Icebergs, 15.  
Ipswich, 82.  
*Jardin-des-Plantes*, 32, 41, 54.  
Jewel House, 103.  
Lambeth, 88.  
Library, American, 36.  
" National, 45.  
" British Museum, 93.  
Living in Paris, 52.  
Logan, Mr., 84.  
Log Books, 28, 132.  
London, 134.  
Longitude at sea, 22.  
Lords, House of, 66.  
Louvre, 42.  
Luxembourg, 49.  
Madeleine Church, 34.  
Marryatt, Mrs., 99.  
Mohl, Professor, 36.  
Mother Carey's Chickens, 17.  
Museum, British, 93.  
" Garden of Plants, 40.  
National Gallery, 84.  
Needles, 26.  
Nelson's Monument, 63.  
Notre Dame Church, 37.  
Owen, Professor, 70.  
Pantheon, 50.  
Peace Congress, 104.  
Penitentiary, 87.  
Petrels, 17.  
Phillips, Professor, 73.  
Phosphorescence of the Sea, 13, 119, 121.  
*Placé de la Concorde*, 54.  
Plain Breakfast, 59.  
Porpoises, 16, 18, 117, 129.  
Prince Albert, 70.  
Race, Cape, 124.  
Raleigh's Cell, 103.  
Rail-Way Cars, 61.  
Rainbows, 121.  
Regalia, 104.  
Refraction, Effect of, 14.  
Religious Service, 128.  
Review of Troops, 46.  
Scilly Islands, 24.  
Sea-Sickness, 12, 117.  
Sedgwick, Professor, 76.  
Skip-Jacks, 13.  
Soiree, 111.  
Somerset House, 97.  
Southampton, 59.  
St. Germain Church, 43.  
St. Martin's-in-the-Fields, 63.  
St. Pancras' Ch., 101.  
St. Paul's Church, 98, 113.  
Sunday in Paris, 34.  
Sunrise, 23.  
Sunset, 129.  
Temple Bar, 102.  
Time at Sea, 22.  
Tower of London, 103.  
Trafalgar Square, 62.  
Tunnel, Thames, 109.  
Vattemare, A. 32.  
Versailles, 48.  
Waterloo Bridge, 97.  
Waves, Height of, 120.  
Whales, 19, 118.  
Whirlwind, 122.  
Wimbledon Common, 99.  
Wren, Christopher, 113.





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